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## **TRAFFIC IMPACT ANALYSIS** **for**

### **CBD BLOOMFIELD DEVELOPER URBAN RENEWAL, LLC**

**Proposed Mixed-Use Residential Development**

**Tax Map 11, Block 244; Lots 10, 10X, 15, 41, 42 & 46**

**Bloomfield Avenue (CR 506S)**

**Bloomfield Township**

**Essex County, New Jersey**

A blue ink signature of Paul B. Goings, written in a cursive style, positioned above a horizontal line.

**PAUL B. GOING**

**Professional Engineer**  
**N.J. License No. 46476**

A blue ink signature of David W. Fahim, written in a cursive style, positioned above a horizontal line.

**DAVID W. FAHIM**

**Professional Engineer**  
**N.J. License No. 57657**

**N.J. P.E. Cert. of Authorization No. 0450854633**

**June 12, 2024**

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Atlantic TPD, LLC (ATDE) has prepared this Traffic Impact Analysis to support the application to Bloomfield Township for the redevelopment of a former school with a 6-story, mixed-use multifamily residential development.

### CURRENT CONDITION

The approximately 2.2-acre property in question is located along northbound Bloomfield Avenue (CR 506S), between the signalized intersection with Liberty Street and the unsignalized intersection with Park Street, with 2 separate frontages along southbound State Street, as shown on the **Figure 1** in the **Appendix**.

The site is primarily occupied by the former Sacred Heart School, fronting along Bloomfield Avenue (CR 506S). The school is affiliated with Sacred Heart Roman Catholic Church, located at the northeast corner of the All-Way STOP intersection of State Street and Liberty Street. The site is also occupied by Nardiello Hall, which is also affiliated with the Church, and a single-family home, both located along State Street.

Access to the site is provided at 3 driveways along Bloomfield Avenue, 2 of which are not in current use, serving the former Sacred Heart School; 2 driveways along State Street, serving Nardiello Hall, and a 3rd driveway along State Street, serving the former Sacred Heart School.

### PROPOSED CONDITION

It is proposed to remove all existing site features and to redevelop the property with a mixed-use building and accessory parking. The ground floor Bloomfield Avenue (CR 506S) frontage would be occupied by 4,289 square feet of community space, for use by Sacred Heart Church, and a residential lobby.

The balance of the ground floor and the entirety of the second floor would be occupied by residential parking. The upper 4 stories of the building would

be occupied by 200 multifamily dwelling units: 26 studio units; 131 1-bedroom units; and 43 2-bedroom units.

Vehicular access to the proposed building would be provided at 2 locations: 1 driveway along Bloomfield Avenue (CR 506S), which would directly access the ground floor parking level; and 1 driveway along the northerly State Street frontage, which would provide access to a small at-grade parking lot and to the ground floor parking level.

The area to the south along State Street, from which Nardiello Hall would be removed, would be reconstructed as a parking lot for the use of Sacred Heart Church, in connection with the proposed community space. This lot would be served by 1 driveway along State Street.

A walkway is proposed along the south side of the building, connecting the parking area to Bloomfield Avenue. The proposed walkway would also tie into a sidewalk connection running along the at-grade residential lot.

The total number of driveways serving the property would be reduced from 6 to 3, with 2 driveways being eliminated along Bloomfield Avenue (CR 506S).

## **SCOPE OF STUDY**

This study has been prepared to evaluate potential traffic impacts associated with the redevelopment of the site with the proposed mixed-use development. Accordingly, this analysis includes the following:

- A review of existing roadway and traffic conditions in the vicinity of the site, including roadway geometrics and traffic volumes;
- Projection of the additional site-generated traffic by the proposed project;
- An analysis of future roadway and site driveway operations;
- An evaluation of the Site Plan focusing on access, on-site circulation, and parking supply; and
- Recommendations and conclusions.

## EXISTING TRAFFIC CONDITIONS

### SUBJECT PROPERTY

The subject property is located along northbound Bloomfield Avenue (CR 506S) in Bloomfield Township, Essex County, New Jersey. The subject property has the following characteristics:

- › Consists of approximately 2.2 acres.
- › Designated as Lots 10, 10X, 15, 41, 42 and 46 in Block 244.
- › Is developed with Sacred Heart School, Nardiello Hall and a single-family home.
- › The property is located in the Redevelopment Plan for Block 244, Lots 10, 15, 41, 42 and 46 redevelopment zone, where multi-family residential and non-residential event space are permitted uses.
- › Has frontage along northbound Bloomfield Avenue (CR 506S) to the west and southbound State Street to the east.
- › Land uses in the site vicinity are primarily commercial and multifamily residential in nature along the Bloomfield Avenue (CR 506S) corridor.
- › The site is located approximately 4/10 of a mile north of NJ Transit's Bloomfield Station, along the Montclair-Boonton line.
- › The municipal boundary separating Bloomfield Township from Glen Ridge Borough runs along the site's Bloomfield Avenue (CR 506S) frontage.

### ROADWAY NETWORK

The subject property has frontage along Bloomfield Avenue (CR 506S) and State Street. The following is a description of the adjacent roadway network:

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#### Bloomfield Avenue (CR 506S)

- › Classified as an Urban Principal Arterial under Essex County jurisdiction.
- › Generally, carries 2 travel lanes plus a parking lane in each direction.

- Is designated an east-west roadway, but generally runs north-south along the site frontage.
- Meets Liberty Street at a signalized "T" intersection to the south of the site; meets Clark Street at an unsignalized "T" intersection along the site frontage; and meets Park Street at an unsignalized "T" intersection to the north of the site.
- Sidewalks are provided on both sides of the roadway.
- Has a posted speed limit of 25 miles per hour along the site frontage.
- Is served by NJ Transit's 11, 27, 28 and 34 bus routes.
- Serves an Average Annual Daily Traffic (AADT) of approximately 23,000 vehicles based on 2017 NJDOT data.

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#### State Street

- Classified as a local road under Bloomfield Township jurisdiction.
- Runs one-way, northbound, in the block between Bloomfield Avenue (CR 506S) and Liberty Street, where 1 travel lane is provided and metered parking is provided on the east side of the road, only.
- To the north of Liberty Street, carries 1 lane in each direction and metered parking is provided on the west side of the road, only.
- Meets Liberty Street at an All-Way STOP controlled intersection to the south of the site; and meets Park Street at an unsignalized intersection to the north of the site, where a flashing signal is provided.
- Sidewalks are provided on both sides of the roadway.
- A speed limit is not posted and is assumed to be 25 miles per hour in the vicinity of the site.

#### EXISTING TRAFFIC VOLUMES

To examine the existing traffic demand at the project site, traffic counts were conducted during the weekday morning, weekday evening and Saturday midday periods at the following intersections:

- › Bloomfield Avenue (CR 506) & Park Street
- › Bloomfield Avenue (CR 506) & Clark Street
- › Bloomfield Avenue (CR 506) & Liberty Street (signalized)
- › State Street & Park Street
- › State Street & Liberty Street

Specifically, vehicle turning movement counts were conducted while local schools were in session during the following dates and times in 2024:

- › Saturday, May 4, 2024, from 11:00 am to 2:00 pm
- › Tuesday, May 7, 2024, from 7:00 am to 9:00 am
- › Tuesday, May 7, 2024, from 4:00 pm to 7:00 pm

## PEAK HOURS

The results of the traffic counts indicate there are distinct hours during the periods of study when site traffic generation experiences its highest level. Based on the traffic count information, the respective weekday morning, weekday evening and Saturday midday peak hours occurred from:

- › Tuesday, 7:30 am to 8:30 am
- › Tuesday, 5:00 pm to 6:00 pm
- › Saturday, 1:00 pm to 2:00 pm

The vehicle turning movement count summaries are provided in the **Appendix**. The existing weekday morning, weekday evening and Saturday midday peak hour traffic volumes of the study intersections are summarized on **Figure 2** in the **Appendix**.

In the existing condition the site was found to generate 21 weekday morning peak hour trips, 24 weekday evening peak hour trips, and 5 Saturday midday peak hour trips.

## PROPOSED DEVELOPMENT TRAFFIC CHARACTERISTICS

Traffic projections for the proposed Mixed-use residential development were prepared using industry-standard data published by the Institute of Transportation Engineers (ITE) in the 11th Edition of the *Trip Generation Manual*.

Specifically, peak hour trips generated by the proposed 200 dwelling unit multifamily residential development and the 4,289 square foot Sacred Heart Church community space were calculated using the *Close to Rail Transit* subcategory of ITE Land Use Code 221: "*Multifamily Housing (Mid-Rise)*" and ITE Land Use Code 560: "*Church*," respectively.

The use of the *Close to Rail Transit* subcategory is appropriate, given the proximity of the site to the Bloomfield commuter rail station. However, the ITE does not have *Close to Rail Transit* data available for the Saturday midday peak hour. The weekday evening peak hour data was therefore used for the Saturday midday calculations.

**Table 1**, below, summarizes the site-generated traffic due to the proposed development, compared to the existing trip generation observed during the study peak hours. The ITE trip generation summary printouts are provided in the **Appendix**.

**Table 1**  
**ITE Trip Generation Comparison**  
**Existing Uses vs Proposed Mixed-Use Residential**

Land Use	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday MD Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Existing Uses (Observed)	14	7	21	12	12	24	2	3	5
Proposed 200-Unit Multifamily	23	40	63	38	20	58	38	20	58
4,289 SF Church Community Space	2	1	3	3	3	6	7	5	12
Difference	+11	+34	+45	+29	+11	+40	+43	+22	+65

The proposed project is calculated to result in fewer than 100 additional peak hour trips, as well as fewer than 100 total peak hour trips. An increase of fewer than 100 peak hour trips is not considered "significant" by the ITE and NJDOT.

However, in order to provide a conservative and complete analysis, a detailed analysis of traffic conditions has been conducted.

### **TRIP DISTRIBUTION**

The site-generated trips attributed to the proposed residential use were assigned to the proposed Bloomfield Avenue driveway and proposed northerly State Street driveway. Site generated trips attributed to the Sacred Heart Church community space were assigned to the southerly State Street driveway.

The residential and church trip distributions are illustrated on **Figure 3** and **Figure 4** in the **Appendix**, respectively. **Figure 5** in the **Appendix** depicts the resulting distributed project-generated peak hour trips.

### BACKGROUND TRAFFIC GROWTH

It is anticipated that the proposed development will be completed within 2 years of this study. Over that period, it is conservatively assumed that background traffic on the roadways adjacent to the site will increase.

In order to provide a conservative analysis, and to account for unknown developments that may occur nearby, the existing observed traffic volumes were increased by an annual growth rate of 2.00%, which is the rate NJDOT publishes for Essex County Urban Principal Arterial roadways, for traffic planning purposes.

The resulting Future Base traffic volumes are shown on **Figure 6** in the **Appendix**.

### OTHER AREA DEVELOPMENTS

Bloomfield Township Planning was contacted to determine if there are any specific approved developments in the vicinity of the site which could impact traffic conditions on the adjacent roadway network. The following adjacent area developments were identified and are considered in this TIA:

- **11-13 Broad Street (Block 574, Lot 19)**  
Proposed mixed-use development, consisting of 125-unit mid-rise multifamily and 6,500 square foot ground floor retail. The traffic volumes associated with this development are summarized on **Figure 7** in the **Appendix**.
- **668 Bloomfield Avenue (Block 226, Lots 18 & 28)**  
Proposed 30-unit mid-rise multifamily residential. The traffic volumes associated with this development are summarized on **Figure 8** in the **Appendix**.

In addition to these projects, the Township also identified a proposed cannabis dispensary at 324 Broad Street. However, that site is located approximately 1 mile to the north and west of the subject property, where it does not appear that it would generate traffic at the study intersections.

The total adjacent area development traffic volumes are summarized on **Figure 9** in the **Appendix**.

#### **FUTURE NO-BUILD TRAFFIC VOLUMES**

The future-without-the-project, or No-Build, traffic volumes were established by combining the future Base traffic volumes (**Figure 6**) and the adjacent area development traffic volumes (**Figure 9**). The future No-Build traffic volumes are summarized on **Figure 10** in the **Appendix**.

#### **FUTURE BUILD TRAFFIC VOLUMES**

The future Build traffic volumes were calculated by adding the additional site-generated traffic volumes associated with the proposed Raising Cane's restaurant (**Figure 5**) to the future No-Build traffic (**Figure 10**) volumes. The Build traffic volumes as shown on **Figure 11** in the **Appendix**.

#### **ANALYSIS OF FUTURE TRAFFIC VOLUMES**

A Volume/Capacity and Level of Service Analysis was conducted for the future No-Build and Build weekday morning, weekday evening and Saturday midday peak hour traffic networks using Synchro 12 Software. Level of Service descriptions are provided in the **Appendix**.

For the analyses, ATDE obtained the Essex County traffic signal timing directive for the intersection of Bloomfield Avenue (CR 506S) and Liberty Street, which is provided in the **Appendix**. The results of the No-Build and Build Synchro analyses are summarized in **Table 2**, on the following page. Printouts of the results are provided in the **Appendix**.

In comparison to the No-Build analyses, the Build analyses show minor increases in average delay and 95th percentile queue lengths at the study locations. No-Build Levels of Service (LOS) are maintained in the Build condition, with one exception: in the weekday evening park hour, the eastbound movement from Clark Street to Bloomfield Avenue is calculated to degrade from a marginal Level of Service D to a marginal Level of Service E. The change is minor in nature, as the average delay is calculated to increase by only 1 second.

**Table 2**  
**Delay, Level of Service, 95th Percentile Queue Comparison**  
**No-Build vs Build Condition**

Intersection	Lane Group	AM Peak Hour						PM Peak Hour						SAT Peak Hour					
		No-Build			Build			No-Build			Build			No-Build			Build		
		Del.	LOS	Q95	Del.	LOS	Q95	Del.	LOS	Q95	Del.	LOS	Q95	Del.	LOS	Q95	Del.	LOS	Q95
Bloomfield Ave (CR-506S) @Strip Retail Ingress, Park St	WB: LTR	28.9	D	74'	30.2	D	76'	26.9	D	58'	27.7	D	60'	27.6	D	62'	29.1	D	67'
	NB: LTR	10.0	B	5'	10.0	B	5'	10.6	B	5'	10.7	B	5'	10.2	B	7'	10.3	B	7'
	SB: LTR	10.2	B	2'	10.3	B	2'	9.5	A	7'	9.5	A	7'	9.4	A	2'	9.4	A	5'
	Overall	3.2	A		3.4	A		3.2	A		3.3	A		3.4	A		3.6	A	
Bloomfield Ave (CR-506S) @Site Dwy	WB: LR	17.2	C	0'	18.4	C	5'	16.0	C	0'	15.9	C	2'	0.0	A	0'	14.8	B	2'
	SB: LT	10.0	A	0'	10.1	B	0'	9.1	A	0'	9.2	A	0'	0.0	A	0'	9.2	A	0'
	Overall	0.1	A		0.3	A		0.0	A		0.2	A		0.0	A		0.2	A	
Bloomfield Ave (CR-506S) @Clark St	EB: LR	59.1	F	127'	61.7	F	131'	34.5	D	92'	35.5	E	94'	28.9	D	58'	29.8	D	58'
	NB: LT	10.3	B	7'	10.3	B	7'	10.5	B	5'	10.5	B	5'	9.9	A	2'	10.0	A	2'
	Overall	5.9	A		6.1	A		3.9	A		4.0	A		2.6	A		2.7	A	
Bloomfield Ave (CR-506S) @Liberty St	WB: L	66.6	E	173'	69.0	E	179'	61.2	E	145'	62.4	E	149'	34.1	C	91'	34.2	C	94'
	R	33.7	C	99'	34.4	C	100'	29.5	C	67'	30.0	C	68'	9.5	A	36'	9.6	A	36'
	NB: TR	4.6	A	104'	4.6	A	104'	4.2	A	78'	4.3	A	79'	5.1	A	86'	5.1	A	88'
	SB: LT	6.3	A	154'	6.3	A	155'	6.8	A	194'	6.9	A	195'	6.4	A	145'	6.4	A	147'
	Overall	13.2	B		13.7	B		11.6	B		11.9	B		7.5	A		7.6	A	
State St @Park St	EB: LTR	17.2	C	18'	14.2	B	14'	11.5	B	14'	11.5	B	14'	10.9	B	12'	11.0	B	12'
	WB: LTR	21.7	C	99'	16.5	C	74'	12.1	B	23'	12.4	B	25'	11.1	B	14'	11.4	B	16'
	NB: LTR	7.7	A	0'	7.7	A	0'	7.4	A	0'	7.4	A	0'	7.5	A	0'	7.6	A	0'
	SB: LTR	7.7	A	2'	7.4	A	2'	7.5	A	0'	7.5	A	0'	7.9	A	0'	7.9	A	0'
	Overall	11.0	B		10.3	B		6.4	A		6.7	A		6.1	A		6.3	A	
State St @Northern Site Dwy	EB: LR	10.0	A	0'	10.5	B	2'	9.6	A	0'	9.6	A	0'	8.9	A	0'	9.3	A	0'
	NB: LT	0.0	A	0'	7.7	A	0'	7.4	A	0'	7.5	A	0'	7.4	A	0'	7.4	A	0'
	Overall	0.1	A		0.7	A		0.3	A		0.6	A		0.2	A		0.7	A	
State St @Southern Site Dwy	EB: LR	0.0	A	0'	10.3	B	0'	9.4	A	0'	9.4	A	0'	8.9	A	0'	9.2	A	0'
	NB: LT	7.5	A	0'	7.5	A	0'	7.4	A	0'	7.4	A	0'	7.4	A	0'	7.4	A	0'
	Overall	0.2	A		0.1	A		0.3	A		0.2	A		0.2	A		0.4	A	
State St @Liberty St	EB: LT	9.7	A	18'	9.7	A	18'	10.0	A	28'	10.1	B	30'	8.7	A	14'	8.8	A	14'
	WB: TR	11.1	B	44'	11.2	B	41'	9.3	A	21'	9.4	A	21'	8.5	A	14'	8.6	A	14'
	NB: LTR	9.9	A	23'	10.0	A	23'	9.3	A	21'	9.4	A	23'	8.6	A	18'	8.7	A	18'
	SB: LTR	10.0	A	25'	10.2	B	28'	9.0	A	16'	9.0	A	16'	8.0	A	9'	8.1	A	12'
	Overall	10.3	B		10.4	B		9.5	A		9.5	A		8.5	A		8.6	A	

The analysis of the proposed Bloomfield Avenue (CR 506S) driveway in particular shows good Levels of Service A, B and C. **However, based on discussion with Essex County, the provision of left-turns at the**

**Bloomfield Avenue (CR 506S) driveway will require a supporting Gap Analysis, which will be completed at a later date.**

## SITE ACCESS AND CIRCULATION

An evaluation has been made of the Site Layout Plan for the proposed mixed-use project, prepared by Bohler, dated June 12, 2024. In particular, the evaluation focuses on-site access, on-site circulation, and parking supply. The following items address the design characteristics:

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### Site Access

- › In the existing condition the site is served by 6 driveways: 3 on Bloomfield Avenue (CR 506S) and 3 on State Street
- › In the proposed condition access would be reduced to 3 driveways: 1 on Bloomfield Avenue and 2 on State Street.
- › **Based on discussion with Essex County, the provision of left-turns at the Bloomfield Avenue (CR 506S) driveway will require a supporting Gap Analysis, which will be completed at a later date.**
- › The reduction in the number of driveways, particularly along the busy Bloomfield Avenue corridor, is a safety benefit to the travelling public.

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### Parking

- › New Jersey Residential Site Improvement Standards (RSIS) require 1.8 parking stalls per studio or 1-bedroom unit; and 2.0 parking stalls per 2-bedroom unit. 369 stalls are required for the proposed (26) studio units, (131) 1-bedroom units, and (43) 2-bedroom units.
- › The Redevelopment Plan for the subject property specifies 1.4 parking stalls required per dwelling unit, or 280 stalls for the total 200 proposed dwelling units.
- › An additional 6 stalls per 1,000 square feet are required for the proposed Sacred Heart Church community space, which is classified as "commercial/event" space. 26 spaces are required for the proposed 4,289 square feet.
- › Thus, 395 total stalls would be required per the RSIS standard, and 306 stalls would be required per the Redevelopment Plan.

- The RSIS recognizes that reduced standards may be considered by land use boards when justified by local conditions. As the Township has adopted a reduced standard in the Redevelopment Plan, the application of that standard is justified. On this basis, 306 parking stalls are required.
- A total of 354 parking stalls are proposed, including a 30-stall credit (10% of 306 required stalls) for 43 proposed EV charging parking stalls, satisfying the requirement for 306 stalls.
- 324 actual physical parking stalls are proposed:
  - ▷ 280 stalls would be located in the parking levels of the building and in the residential at-grade lot, meeting the residential requirement of the Redevelopment Plan.
  - ▷ 44 stalls are proposed in the at-grade lot for Sacred Heart Church community space use, exceeding the 26 stalls required.
- A total of 43 EV charging stalls are required where 43 are proposed, satisfying the requirement. 3 of the EV charging stalls would be ADA-compliant.
- A mix of standard (9' wide and 18' long) and compact (8.5' wide and 15' or 16' long) stalls are proposed. Per Township Code, up to 20% of required stalls may be compact, or 62 stalls.
- The plan proposes 73 compact stalls, requiring a variance for 11 compact stalls. The variance is justified based on 354 stalls being proposed where 306 stalls are required.
- (1) 19' x 49.8' loading space is proposed.
- The Redevelopment Plan requires 8 outdoor bicycle parking spaces and 20 indoor bicycle parking spaces. There are 8 outdoor bicycle parking spaces and 20 indoor bicycle parking spaces proposed.

It has been determined from the conduct of a detailed traffic study that the proposed redevelopment of the subject property with a mixed-use residential development **would not significantly impact traffic conditions** in the vicinity of the site.

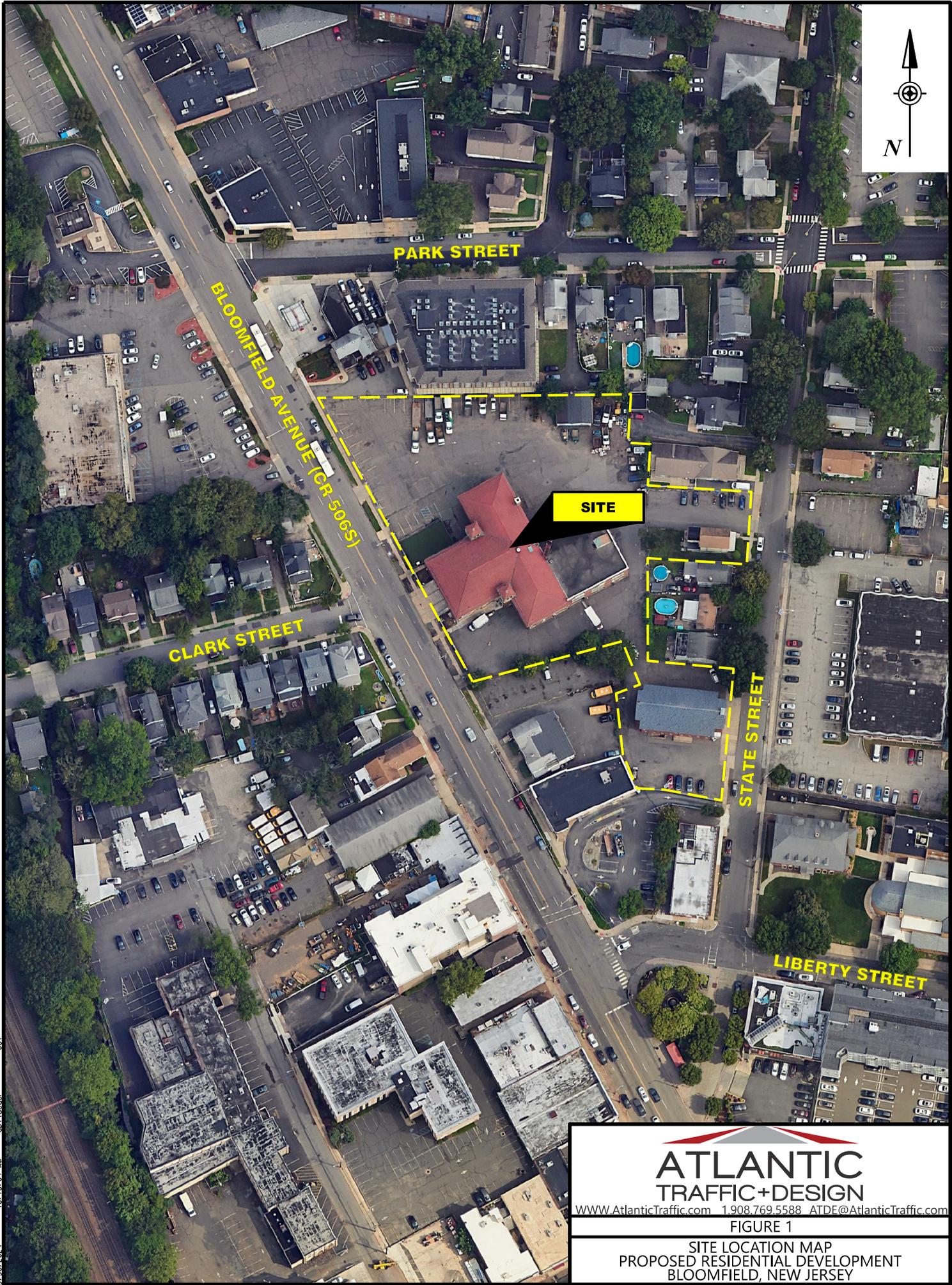
The project would result in the net elimination of 2 Bloomfield Avenue (CR 506S) driveways and 1 State Street driveway. **Based on discussion with Essex County, the provision of left-turns at the proposed Bloomfield Avenue (CR 506S) driveway will require a supporting Gap Analysis**

The proposed parking supply would provide 355 parking stalls and is calculated to be more than sufficient based on the parking requirements set forth in the Township Code and in the Redevelopment Plan.

The project would additionally meet the bicycle parking requirements and provide ADA-compliant sidewalk connectivity between the Bloomfield Avenue (CR 506S) frontage and the State Street frontage.







**SITE**

**PARK STREET**

**BLOOMFIELD AVENUE (CR-506S)**

**CLARK STREET**

**STATE STREET**

**LIBERTY STREET**

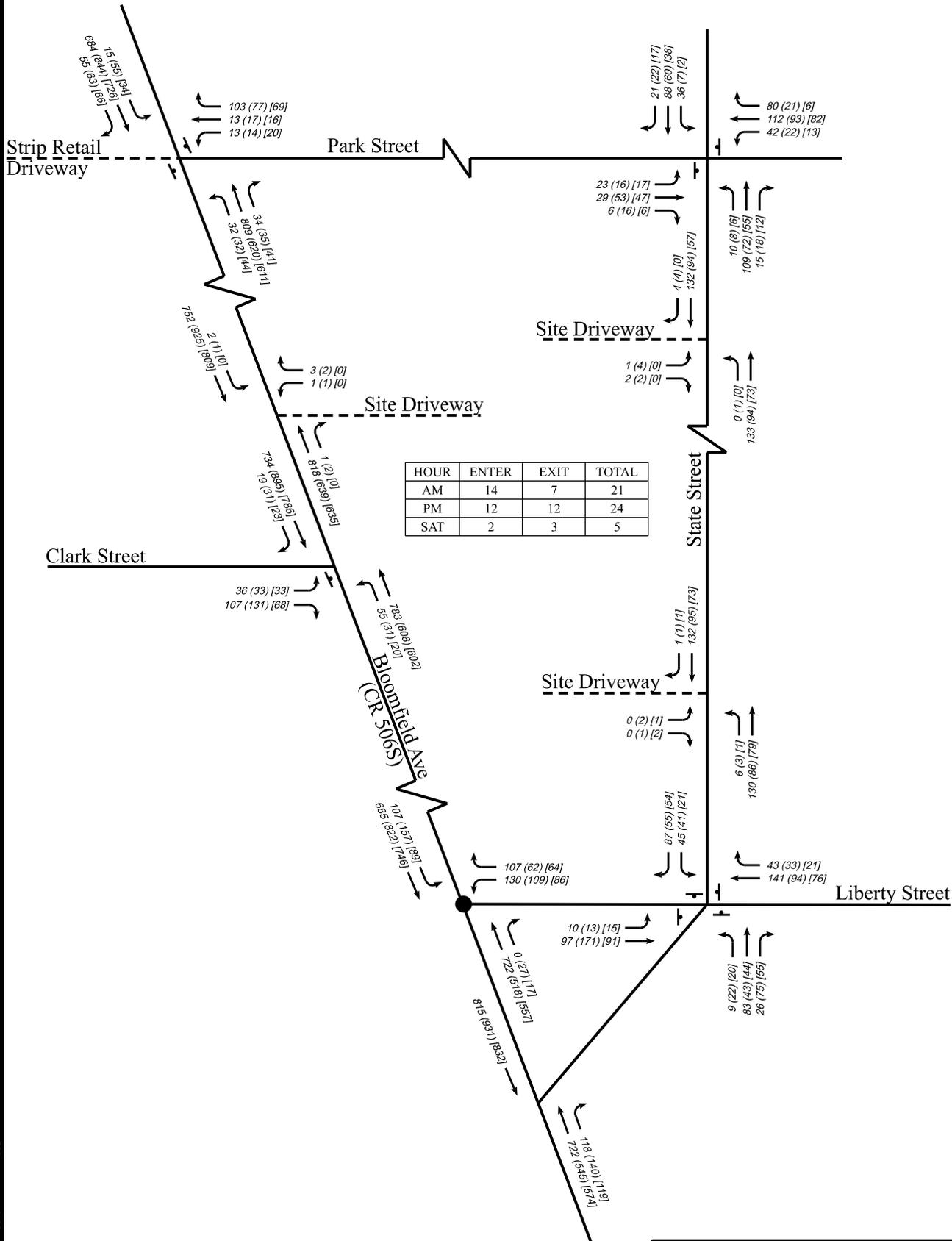
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FIGURE 1

**SITE LOCATION MAP  
PROPOSED RESIDENTIAL DEVELOPMENT  
BLOOMFIELD, NEW JERSEY**

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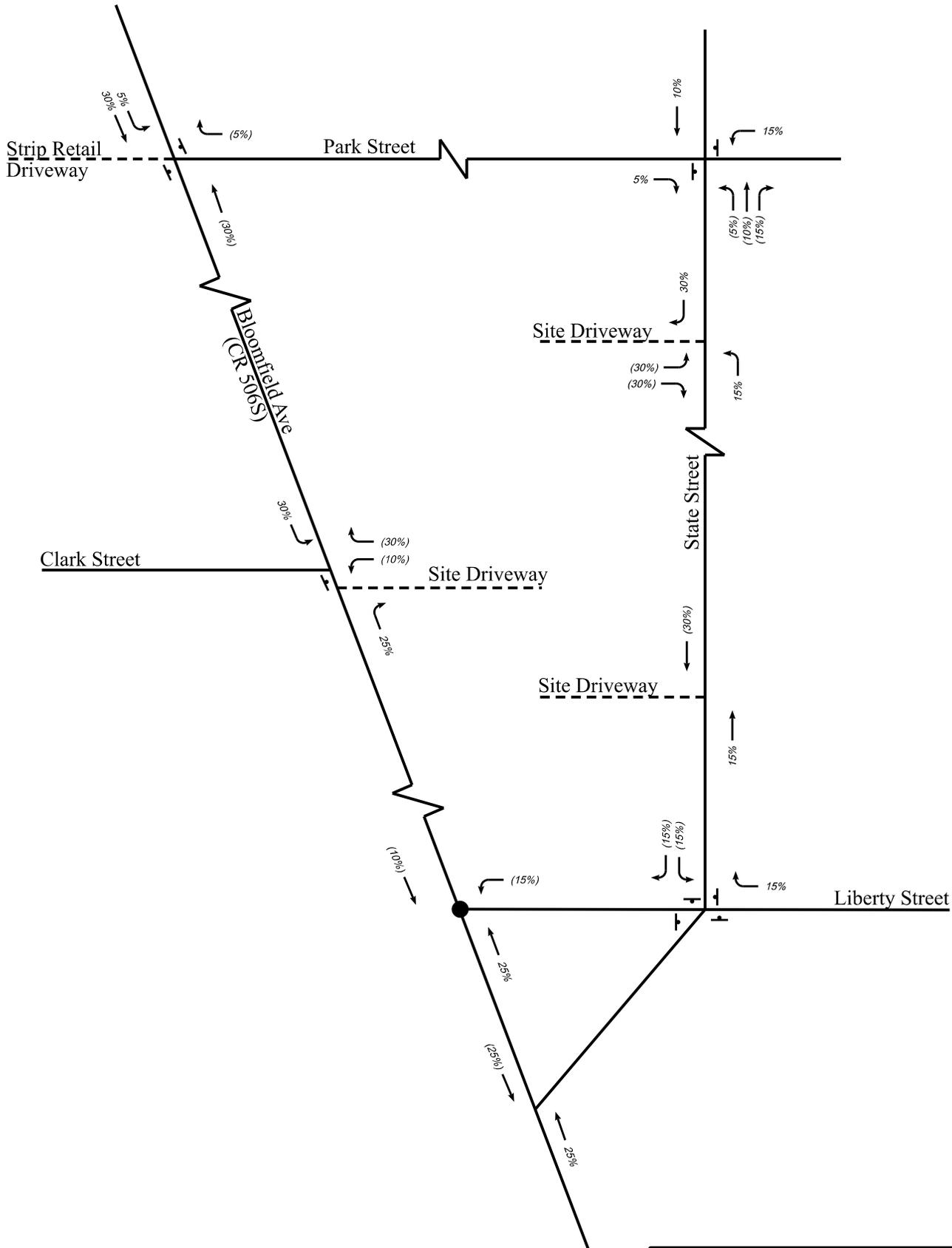
- +— STOP CONTROLLED
- SIGNALIZED INTERSECTION
- EXISTING ROADWAY
- - - EXISTING DRIVEWAY

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FIGURE 2

EXISTING TRAFFIC VOLUMES  
AM (PM) [SAT] PEAK HOUR VOLUMES



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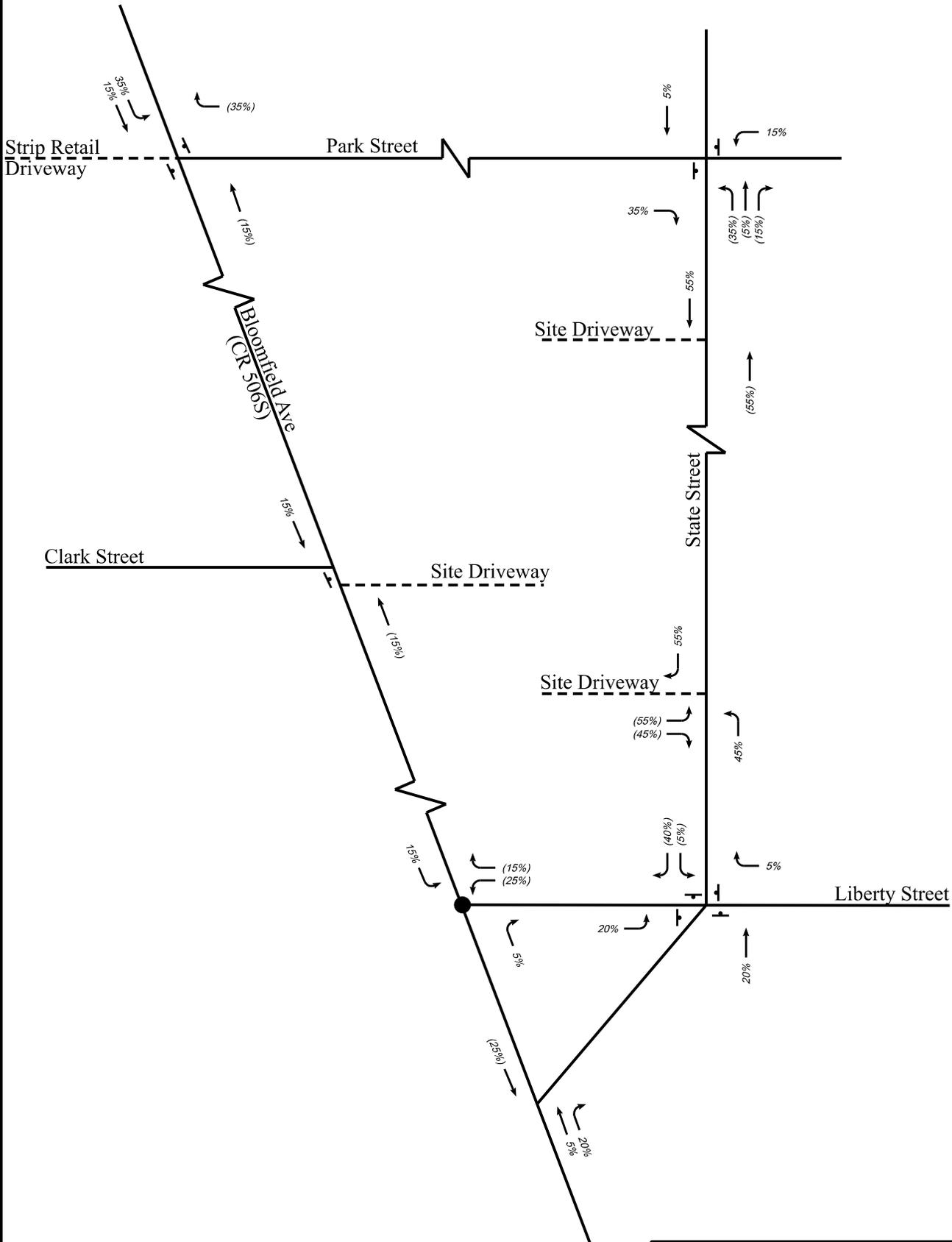
- +— STOP CONTROLLED
- SIGNALIZED INTERSECTION
- EXISTING ROADWAY
- - - EXISTING DRIVEWAY

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FIGURE 3

PROJECT-GENERATED NEW TRIP DISTRIBUTION  
(MULTIFAMILY RESIDENTIAL)  
ENTER (EXIT) DISTRIBUTION



**KEY:**

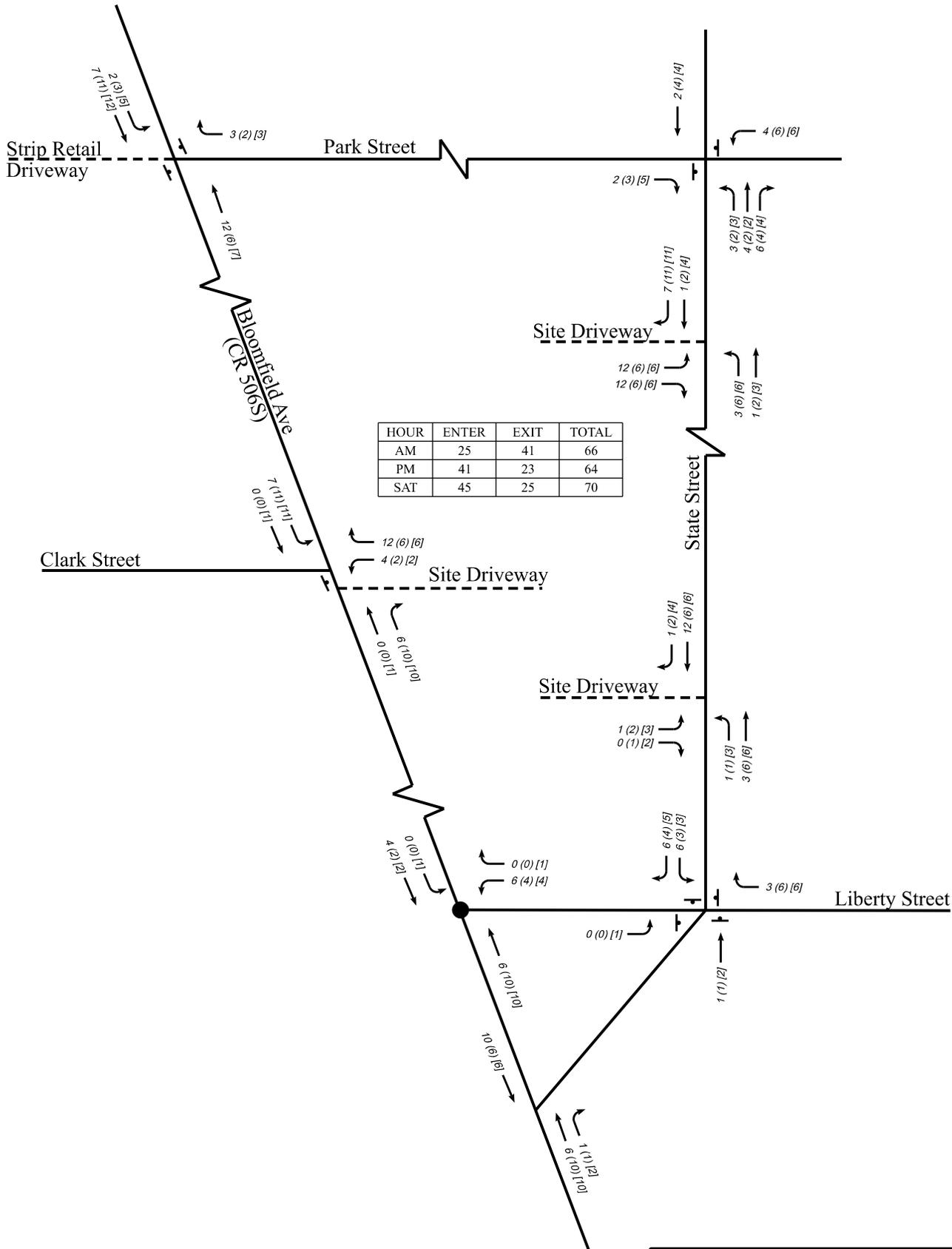
- STOP CONTROLLED
- SIGNALIZED INTERSECTION
- EXISTING ROADWAY
- - - EXISTING DRIVEWAY

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FIGURE 4

PROJECT-GENERATED NEW TRIP DISTRIBUTION  
(CHURCH COMMUNITY SPACE)  
ENTER (EXIT) DISTRIBUTION



HOUR	ENTER	EXIT	TOTAL
AM	25	41	66
PM	41	23	64
SAT	45	25	70

**KEY:**

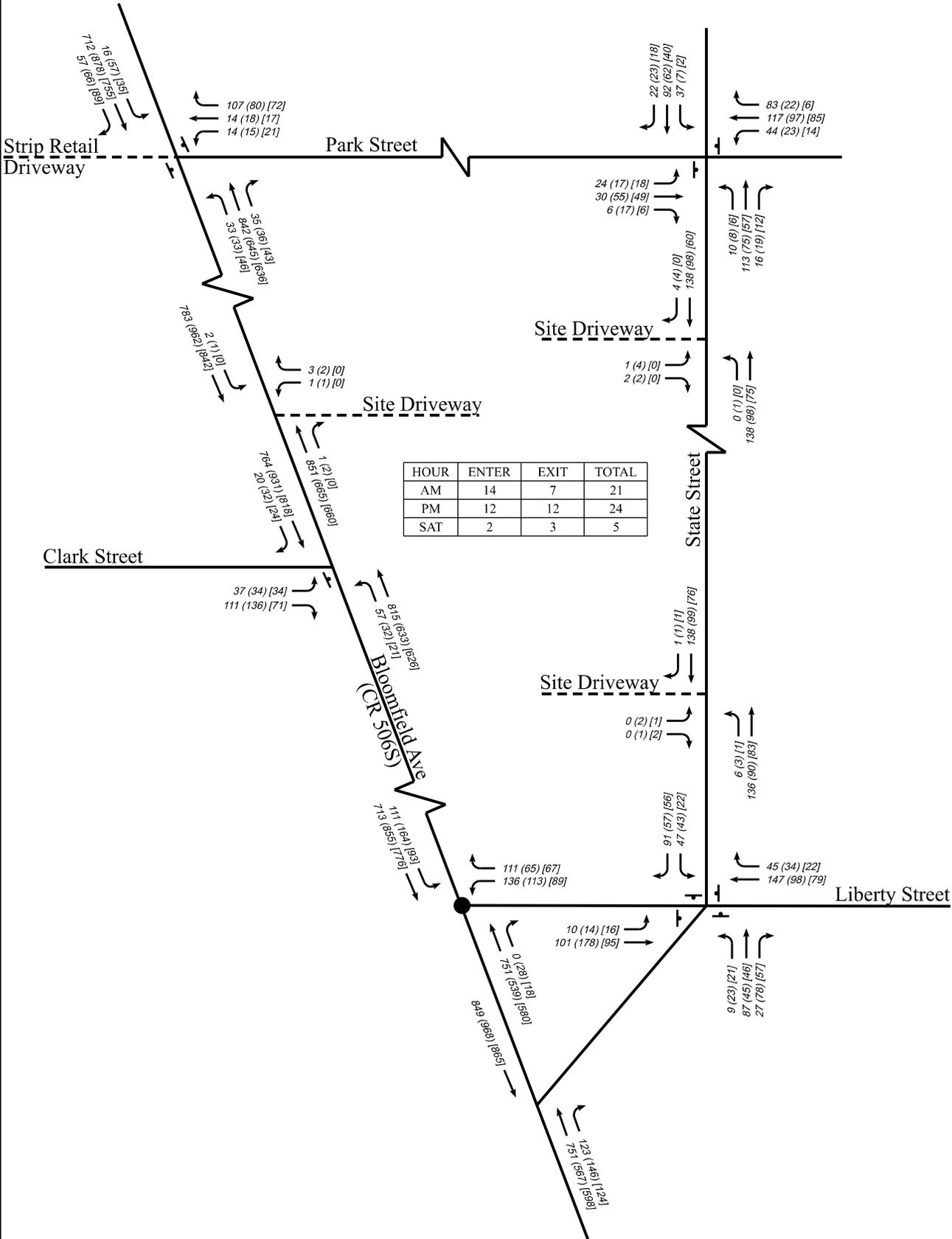
- STOP CONTROLLED
- SIGNALIZED INTERSECTION
- EXISTING ROADWAY
- EXISTING DRIVEWAY

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FIGURE 5

PROJECT-GENERATED NEW TRAFFIC VOLUMES  
AM (PM) [SAT] PEAK HOUR VOLUMES



HOUR	ENTER	EXIT	TOTAL
AM	14	7	21
PM	12	12	24
SAT	2	3	5

- KEY:**
- STOP CONTROLLED
  - SIGNALIZED INTERSECTION
  - EXISTING ROADWAY
  - - - EXISTING DRIVEWAY

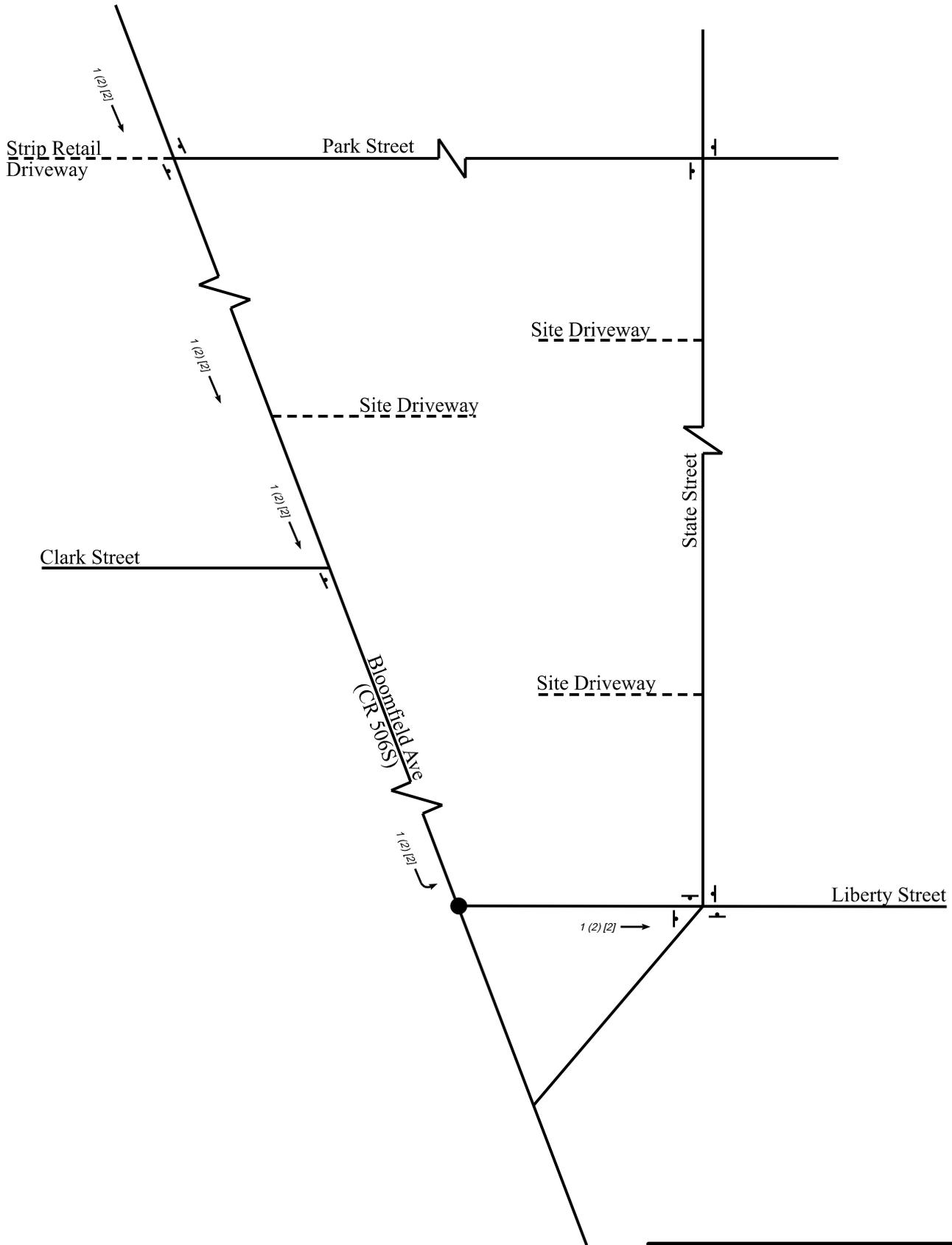
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**FIGURE 6**

FUTURE BASE TRAFFIC VOLUMES  
AM (PM) [SAT PEAK HOUR VOLUMES]

c:\pwork\img\proj\ect\w\sev\tpd-c51v\23202626\5x11\Figures\_Seed.dgn  
 2/20/2024 10:18:08 AM sp\_luser



**KEY:**

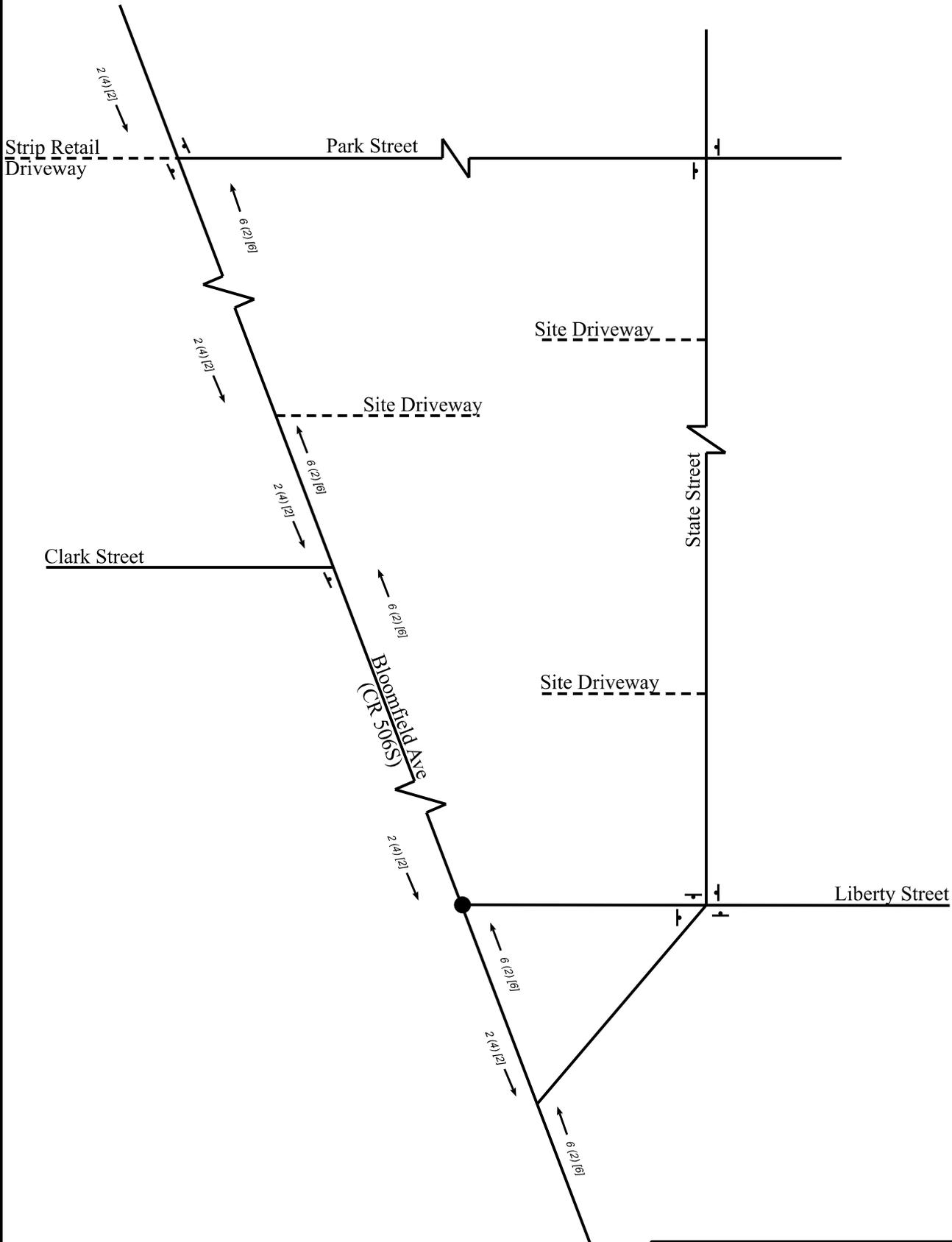
-  STOP CONTROLLED
-  SIGNALIZED INTERSECTION
-  EXISTING ROADWAY
-  EXISTING DRIVEWAY

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FIGURE 7

11-13 BROAD STREET ADJACENT AREA  
DEVELOPMENT TRAFFIC VOLUMES  
AM (PM) [SAT] PEAK HOUR VOLUMES



**KEY:**

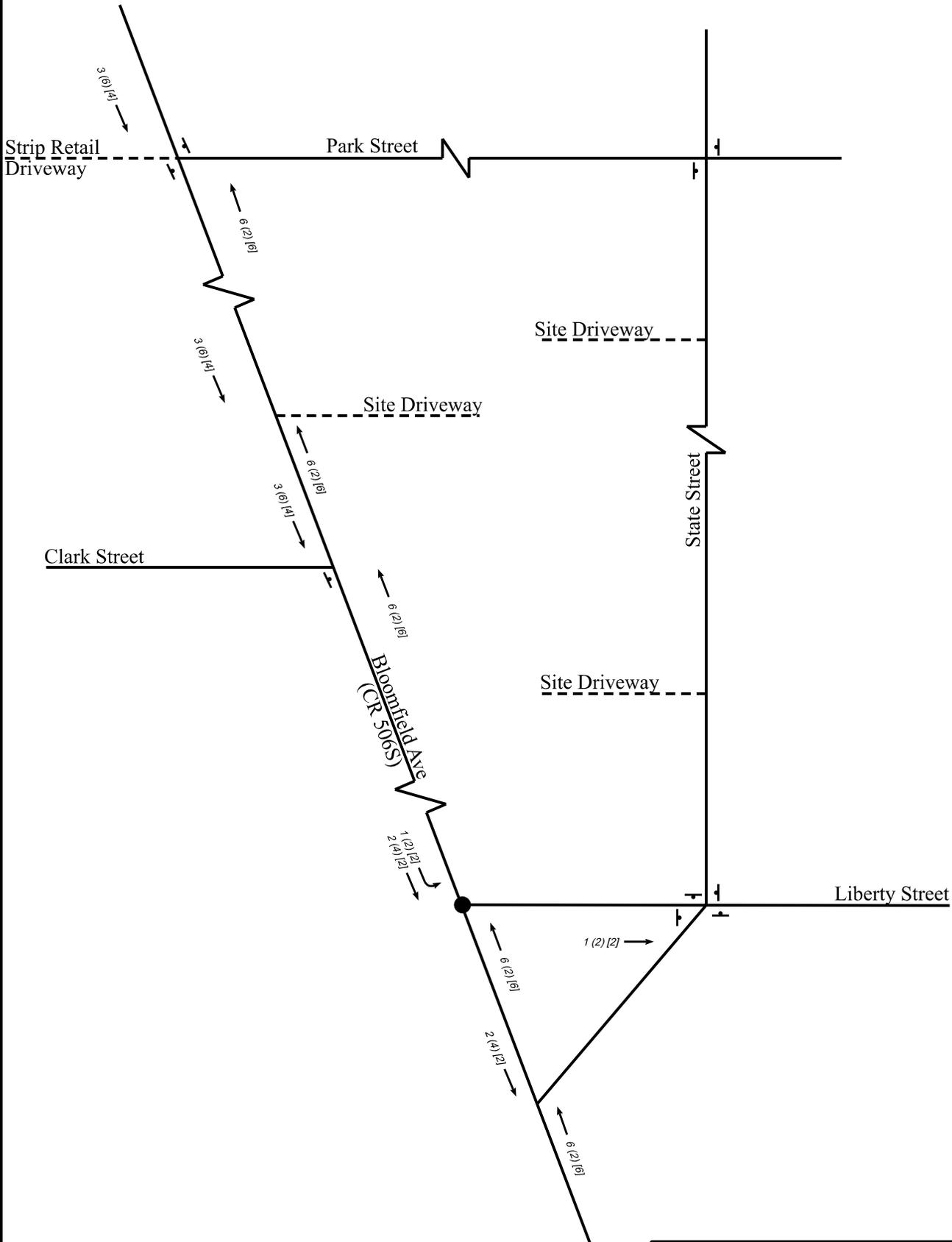
-  STOP CONTROLLED
-  SIGNALIZED INTERSECTION
-  EXISTING ROADWAY
-  EXISTING DRIVEWAY

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FIGURE 8

668 BLOOMFIELD AVENUE ADJACENT AREA  
DEVELOPMENT TRAFFIC VOLUMES  
AM (PM) [SAT] PEAK HOUR VOLUMES



**KEY:**

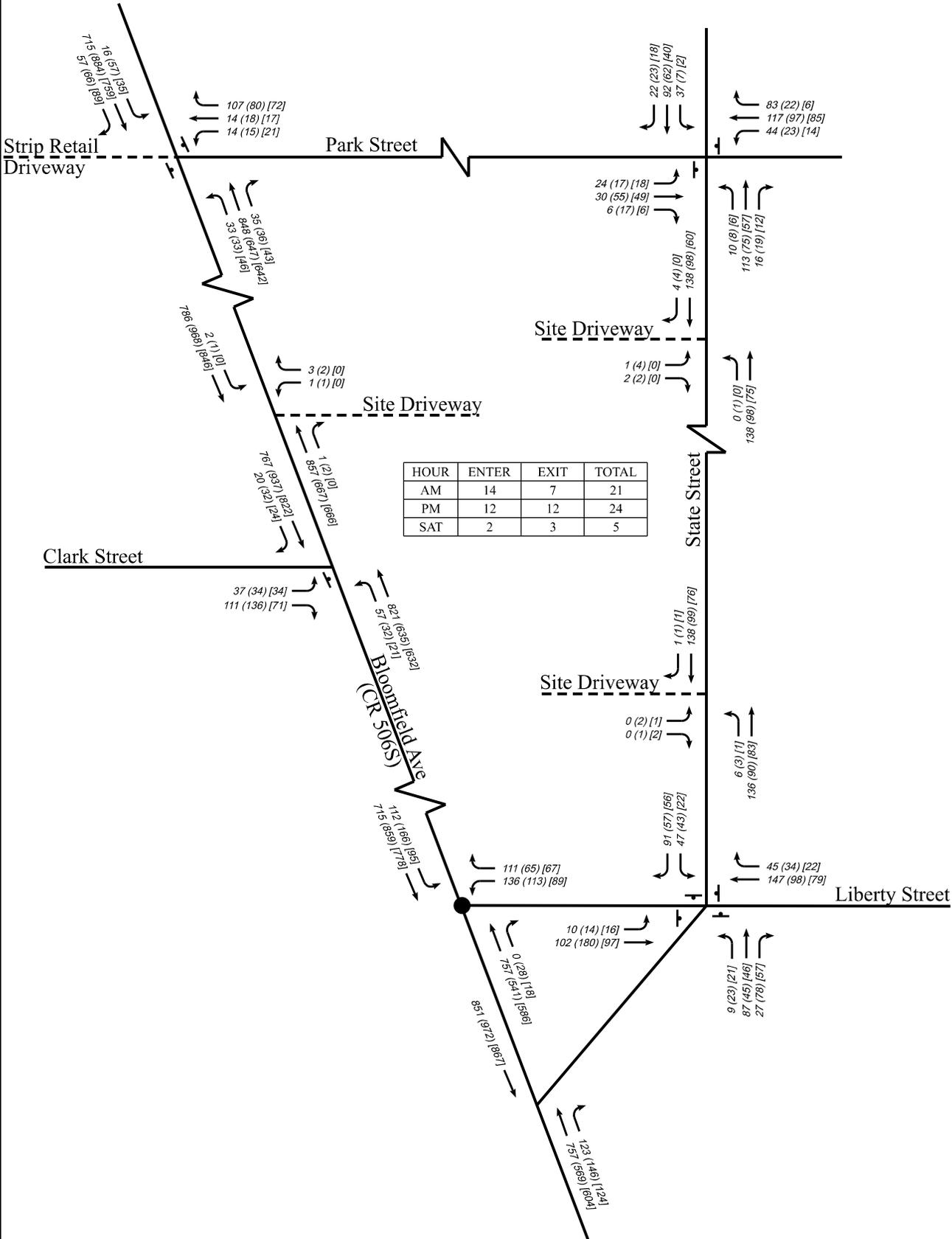
-  STOP CONTROLLED
-  SIGNALIZED INTERSECTION
-  EXISTING ROADWAY
-  EXISTING DRIVEWAY

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FIGURE 9

TOTAL ADJACENT AREA  
DEVELOPMENT TRAFFIC VOLUMES  
AM (PM) [SAT] PEAK HOUR VOLUMES



HOUR	ENTER	EXIT	TOTAL
AM	14	7	21
PM	12	12	24
SAT	2	3	5

- KEY:**
- STOP CONTROLLED
  - SIGNALIZED INTERSECTION
  - EXISTING ROADWAY
  - - - EXISTING DRIVEWAY

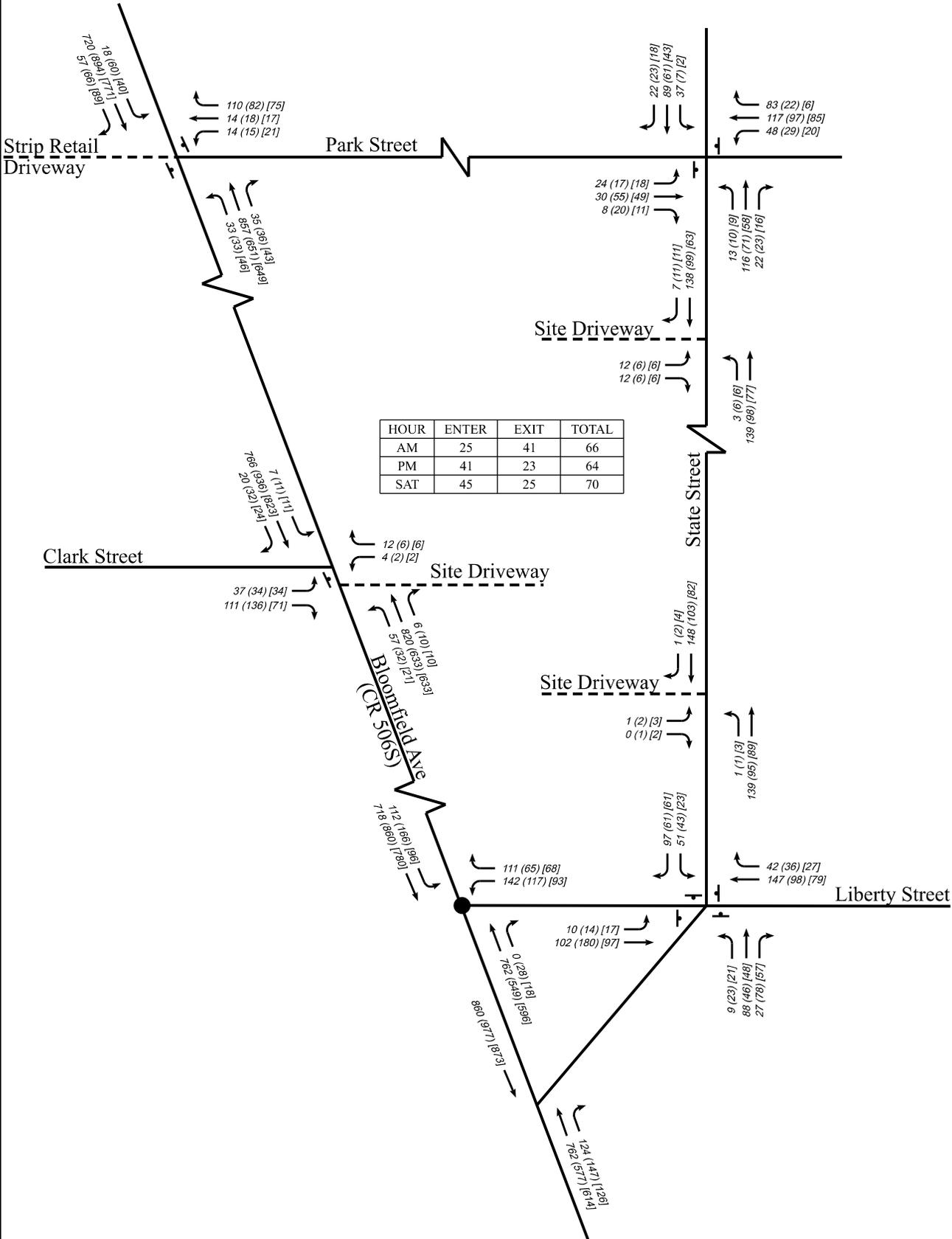
**ATLANTIC**  
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**FIGURE 10**

FUTURE NO-BUILD TRAFFIC VOLUMES  
AM (PM) [SAT PEAK HOUR VOLUMES]

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 2/20/2024 10:18:59 AM sp\_luser



HOUR	ENTER	EXIT	TOTAL
AM	25	41	66
PM	41	23	64
SAT	45	25	70

- KEY:**
- STOP CONTROLLED
  - SIGNALIZED INTERSECTION
  - EXISTING ROADWAY
  - - - EXISTING DRIVEWAY

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FIGURE 11

FUTURE BUILD TRAFFIC VOLUMES  
AM (PM) [SAT PEAK HOUR VOLUMES]

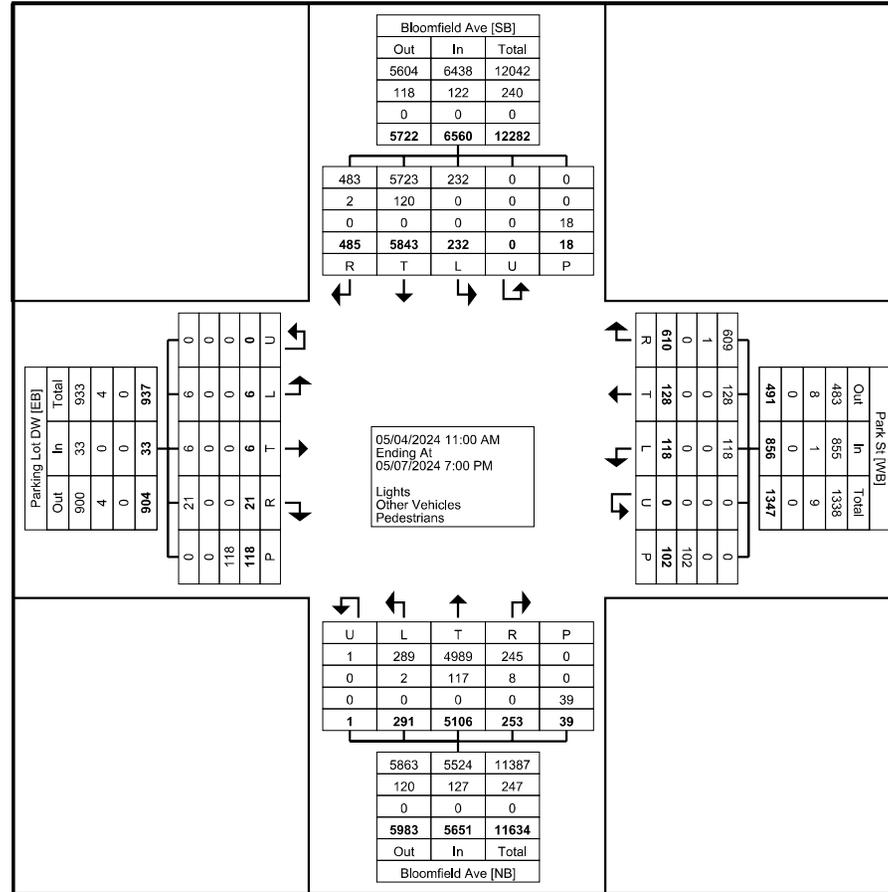
c:\pwworking\proj\ect\atl\sea\tpd-c51v\23202626.dwg, 5x11 Figures, Seecad.dgn  
 2/20/2024 10:18:59 AM sp, E:\user

**B | Turning Movement Count Summary**

### Turning Movement Data

Start Time	Parking Lot DW Eastbound						Park St Westbound						Bloomfield Ave Northbound						Bloomfield Ave Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
11:00 AM	0	0	0	1	1	1	0	2	0	29	5	31	0	8	163	2	0	173	0	8	184	14	0	206	411
11:15 AM	0	0	0	1	3	1	0	3	3	26	3	32	0	12	151	9	0	172	0	7	156	14	0	177	382
11:30 AM	0	0	0	1	1	1	0	6	4	27	2	37	0	8	156	5	0	169	0	7	182	15	0	204	411
11:45 AM	0	0	0	0	4	0	0	1	2	17	2	20	0	8	127	5	1	140	0	7	160	20	0	187	347
Hourly Total	0	0	0	3	9	3	0	12	9	99	12	120	0	36	597	21	1	654	0	29	682	63	0	774	1551
12:00 PM	0	1	0	1	4	2	0	4	7	22	1	33	0	7	208	8	0	223	0	5	166	21	1	192	450
12:15 PM	0	0	0	1	2	1	0	5	5	28	2	38	0	10	137	6	1	153	0	3	176	12	2	191	383
12:30 PM	0	0	0	1	1	1	0	2	4	17	3	23	0	14	163	11	1	188	0	8	196	13	0	217	429
12:45 PM	0	0	0	2	3	2	0	3	3	15	5	21	0	16	169	5	0	190	0	2	172	14	0	188	401
Hourly Total	0	1	0	5	10	6	0	14	19	82	11	115	0	47	677	30	2	754	0	18	710	60	3	788	1663
1:00 PM	0	0	0	1	2	1	0	7	4	15	6	26	0	8	146	8	4	162	0	10	156	19	0	185	374
1:15 PM	0	1	0	1	0	2	0	5	3	15	4	23	0	10	139	10	2	159	0	9	194	19	0	222	406
1:30 PM	0	0	0	2	2	2	0	3	6	25	7	34	0	11	161	15	0	187	0	5	192	23	0	220	443
1:45 PM	0	0	0	1	5	1	0	5	3	14	1	22	0	15	165	8	1	188	0	10	184	25	0	219	430
Hourly Total	0	1	0	5	9	6	0	20	16	69	18	105	0	44	611	41	7	696	0	34	726	86	0	846	1653
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	0	0	0	1	0	0	4	3	15	0	22	0	10	114	13	0	137	0	3	111	6	0	120	279
7:15 AM	0	0	0	0	2	0	0	3	7	24	0	34	0	9	136	10	0	155	0	9	147	13	1	169	358
7:30 AM	0	0	1	1	1	2	0	2	4	34	3	40	1	9	222	8	0	240	0	1	149	15	4	165	447
7:45 AM	0	0	0	0	4	0	0	6	4	27	2	37	0	8	221	7	1	236	0	2	204	10	3	216	489
Hourly Total	0	0	1	1	8	2	0	15	18	100	5	133	1	36	693	38	1	768	0	15	611	44	8	670	1573
8:00 AM	0	0	0	0	3	0	0	1	4	19	1	24	0	7	180	8	2	195	0	7	166	15	0	188	407
8:15 AM	0	0	0	0	1	0	0	4	1	23	2	28	0	8	186	11	6	205	0	5	165	15	0	185	418
8:30 AM	0	0	0	0	0	0	0	4	8	14	1	26	0	8	193	8	1	209	0	10	198	12	0	220	455
8:45 AM	0	0	0	1	2	1	0	7	4	19	3	30	0	11	219	7	3	237	0	5	144	16	0	165	433
Hourly Total	0	0	0	1	6	1	0	16	17	75	7	108	0	34	778	34	12	846	0	27	673	58	0	758	1713
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:45 PM	0	0	0	1	1	1	0	0	0	0	1	0	0	1	11	0	0	12	0	1	21	2	0	24	37
Hourly Total	0	0	0	1	1	1	0	0	0	0	1	0	0	1	11	0	0	12	0	1	21	2	0	24	37
4:00 PM	0	0	0	0	4	0	0	6	4	12	3	22	0	8	143	7	1	158	0	6	210	23	0	239	419
4:15 PM	0	0	0	1	6	1	0	3	0	11	0	14	0	7	140	5	1	152	0	3	240	12	1	255	422
4:30 PM	0	0	0	0	7	0	0	4	2	13	2	19	0	8	145	11	0	164	0	9	218	9	0	236	419
4:45 PM	0	0	0	0	7	0	0	5	7	15	3	27	0	7	126	9	6	142	0	4	262	10	4	276	445
Hourly Total	0	0	0	1	24	1	0	18	13	51	8	82	0	30	554	32	8	616	0	22	930	54	5	1006	1705
5:00 PM	0	1	0	0	11	1	0	8	6	24	2	38	0	6	161	5	1	172	0	16	206	20	2	242	453
5:15 PM	0	0	1	0	5	1	0	2	2	19	4	23	0	6	143	8	0	157	0	12	213	19	0	244	425
5:30 PM	0	0	1	1	5	2	0	3	4	21	5	28	0	11	150	10	2	171	0	10	201	17	0	228	429
5:45 PM	0	1	1	1	12	3	0	1	5	13	10	19	0	9	166	12	0	187	0	17	224	7	0	248	457
Hourly Total	0	2	3	2	33	7	0	14	17	77	21	108	0	32	620	35	3	687	0	55	844	63	2	962	1764

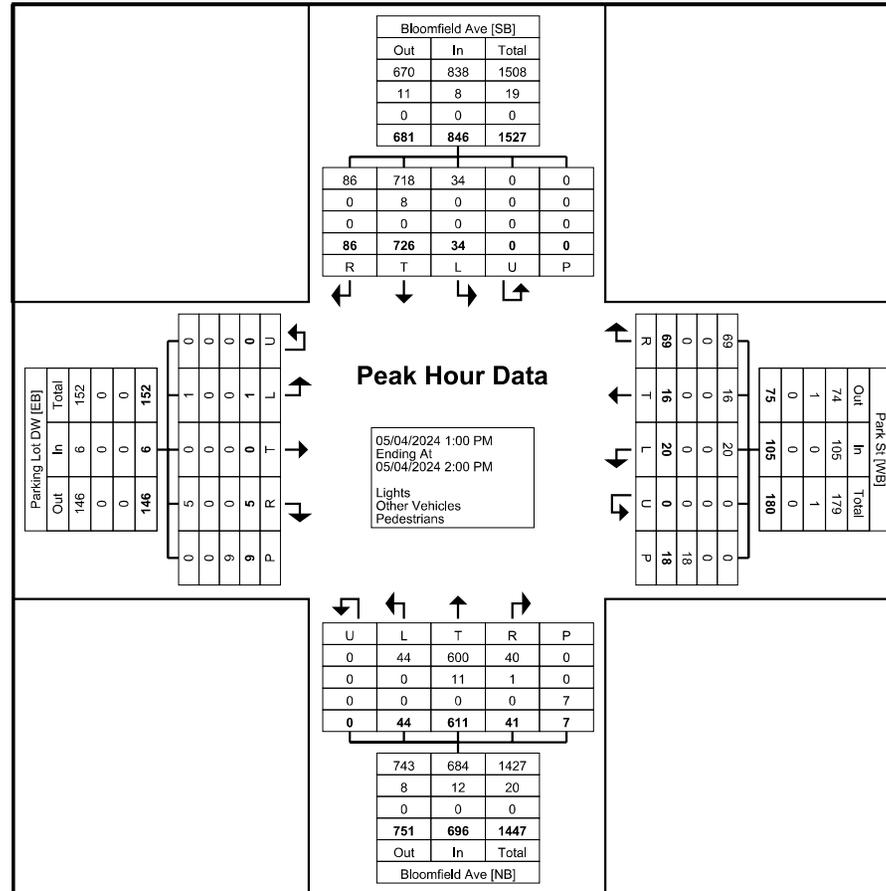
6:00 PM	0	0	0	0	9	0	0	4	5	13	6	22	0	13	143	6	1	162	0	8	155	17	0	180	364
6:15 PM	0	0	0	0	3	0	0	2	7	17	3	26	0	3	145	6	2	154	0	7	181	10	0	198	378
6:30 PM	0	0	1	1	3	2	0	1	4	11	6	16	0	10	150	3	0	163	0	8	167	17	0	192	373
6:45 PM	0	2	1	1	3	4	0	2	3	16	4	21	0	5	127	7	2	139	0	8	143	11	0	162	326
Hourly Total	0	2	2	2	18	6	0	9	19	57	19	85	0	31	565	22	5	618	0	31	646	55	0	732	1441
Grand Total	0	6	6	21	118	33	0	118	128	610	102	856	1	291	5106	253	39	5651	0	232	5843	485	18	6560	13100
Approach %	0.0	18.2	18.2	63.6	-	-	0.0	13.8	15.0	71.3	-	-	0.0	5.1	90.4	4.5	-	-	0.0	3.5	89.1	7.4	-	-	-
Total %	0.0	0.0	0.0	0.2	-	0.3	0.0	0.9	1.0	4.7	-	6.5	0.0	2.2	39.0	1.9	-	43.1	0.0	1.8	44.6	3.7	-	50.1	-
Lights	0	6	6	21	-	33	0	118	128	609	-	855	1	289	4989	245	-	5524	0	232	5723	483	-	6438	12850
% Lights	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	99.8	-	99.9	100.0	99.3	97.7	96.8	-	97.8	-	100.0	97.9	99.6	-	98.1	98.1
Other Vehicles	0	0	0	0	-	0	0	0	0	1	-	1	0	2	117	8	-	127	0	0	120	2	-	122	250
% Other Vehicles	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.2	-	0.1	0.0	0.7	2.3	3.2	-	2.2	-	0.0	2.1	0.4	-	1.9	1.9
Pedestrians	-	-	-	-	118	-	-	-	-	-	102	-	-	-	-	-	39	-	-	-	-	-	18	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Data Plot

### Turning Movement Peak Hour Data (1:00 PM)

Start Time	Parking Lot DW Eastbound						Park St Westbound						Bloomfield Ave Northbound						Bloomfield Ave Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
1:00 PM	0	0	0	1	2	1	0	7	4	15	6	26	0	8	146	8	4	162	0	10	156	19	0	185	374
1:15 PM	0	1	0	1	0	2	0	5	3	15	4	23	0	10	139	10	2	159	0	9	194	19	0	222	406
1:30 PM	0	0	0	2	2	2	0	3	6	25	7	34	0	11	161	15	0	187	0	5	192	23	0	220	443
1:45 PM	0	0	0	1	5	1	0	5	3	14	1	22	0	15	165	8	1	188	0	10	184	25	0	219	430
Total	0	1	0	5	9	6	0	20	16	69	18	105	0	44	611	41	7	696	0	34	726	86	0	846	1653
Approach %	0.0	16.7	0.0	83.3	-	-	0.0	19.0	15.2	65.7	-	-	0.0	6.3	87.8	5.9	-	-	0.0	4.0	85.8	10.2	-	-	-
Total %	0.0	0.1	0.0	0.3	-	0.4	0.0	1.2	1.0	4.2	-	6.4	0.0	2.7	37.0	2.5	-	42.1	0.0	2.1	43.9	5.2	-	51.2	-
PHF	0.000	0.250	0.000	0.625	-	0.750	0.000	0.714	0.667	0.690	-	0.772	0.000	0.733	0.926	0.683	-	0.926	0.000	0.850	0.936	0.860	-	0.953	0.933
Lights	0	1	0	5	-	6	0	20	16	69	-	105	0	44	600	40	-	684	0	34	718	86	-	838	1633
% Lights	-	100.0	-	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	-	100.0	98.2	97.6	-	98.3	-	100.0	98.9	100.0	-	99.1	98.8
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	11	1	-	12	0	0	8	0	-	8	20
% Other Vehicles	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	1.8	2.4	-	1.7	-	0.0	1.1	0.0	-	0.9	1.2
Pedestrians	-	-	-	-	9	-	-	-	-	-	18	-	-	-	-	-	7	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



Turning Movement Peak Hour Data Plot (1:00 PM)

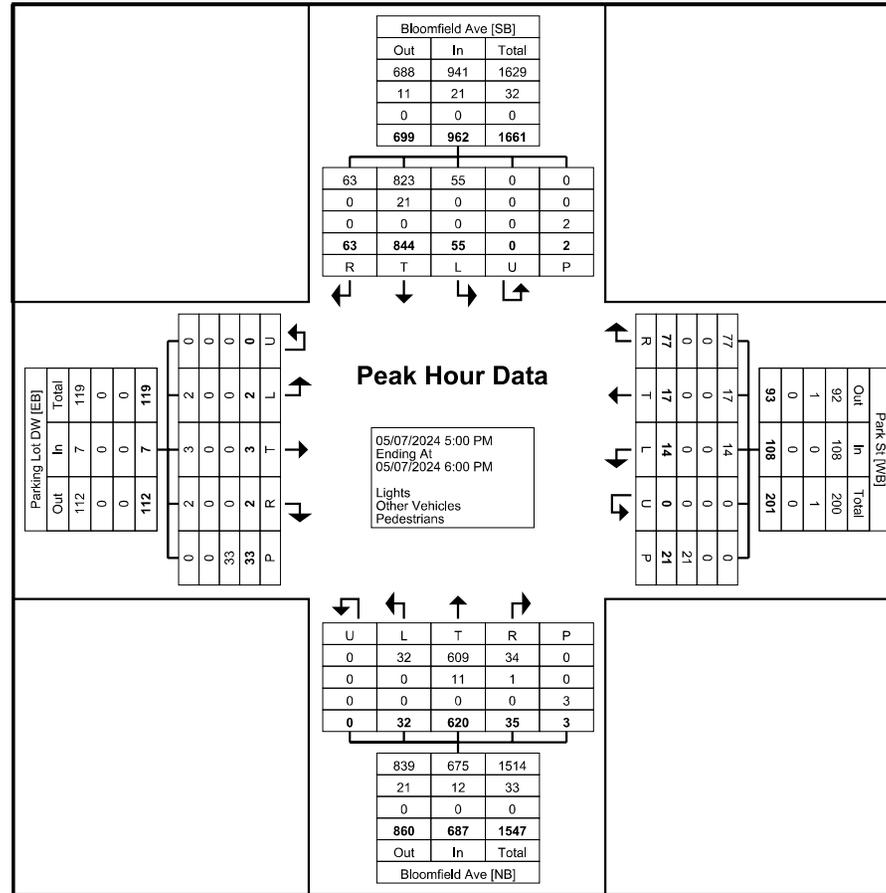
### Turning Movement Peak Hour Data (7:30 AM)

Start Time	Parking Lot DW Eastbound						Park St Westbound						Bloomfield Ave Northbound						Bloomfield Ave Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30 AM	0	0	1	1	1	2	0	2	4	34	3	40	1	9	222	8	0	240	0	1	149	15	4	165	447
7:45 AM	0	0	0	0	4	0	0	6	4	27	2	37	0	8	221	7	1	236	0	2	204	10	3	216	489
8:00 AM	0	0	0	0	3	0	0	1	4	19	1	24	0	7	180	8	2	195	0	7	166	15	0	188	407
8:15 AM	0	0	0	0	1	0	0	4	1	23	2	28	0	8	186	11	6	205	0	5	165	15	0	185	418
Total	0	0	1	1	9	2	0	13	13	103	8	129	1	32	809	34	9	876	0	15	684	55	7	754	1761
Approach %	0.0	0.0	50.0	50.0	-	-	0.0	10.1	10.1	79.8	-	-	0.1	3.7	92.4	3.9	-	-	0.0	2.0	90.7	7.3	-	-	-
Total %	0.0	0.0	0.1	0.1	-	0.1	0.0	0.7	0.7	5.8	-	7.3	0.1	1.8	45.9	1.9	-	49.7	0.0	0.9	38.8	3.1	-	42.8	-
PHF	0.000	0.000	0.250	0.250	-	0.250	0.000	0.542	0.813	0.757	-	0.806	0.250	0.889	0.911	0.773	-	0.913	0.000	0.536	0.838	0.917	-	0.873	0.900
Lights	0	0	1	1	-	2	0	13	13	102	-	128	1	32	778	32	-	843	0	15	664	54	-	733	1706
% Lights	-	-	100.0	100.0	-	100.0	-	100.0	100.0	99.0	-	99.2	100.0	100.0	96.2	94.1	-	96.2	-	100.0	97.1	98.2	-	97.2	96.9
Other Vehicles	0	0	0	0	-	0	0	0	0	1	-	1	0	0	31	2	-	33	0	0	20	1	-	21	55
% Other Vehicles	-	-	0.0	0.0	-	0.0	-	0.0	0.0	1.0	-	0.8	0.0	0.0	3.8	5.9	-	3.8	-	0.0	2.9	1.8	-	2.8	3.1
Pedestrians	-	-	-	-	9	-	-	-	-	-	8	-	-	-	-	-	9	-	-	-	-	-	7	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Parking Lot DW Eastbound						Park St Westbound						Bloomfield Ave Northbound						Bloomfield Ave Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
5:00 PM	0	1	0	0	11	1	0	8	6	24	2	38	0	6	161	5	1	172	0	16	206	20	2	242	453
5:15 PM	0	0	1	0	5	1	0	2	2	19	4	23	0	6	143	8	0	157	0	12	213	19	0	244	425
5:30 PM	0	0	1	1	5	2	0	3	4	21	5	28	0	11	150	10	2	171	0	10	201	17	0	228	429
5:45 PM	0	1	1	1	12	3	0	1	5	13	10	19	0	9	166	12	0	187	0	17	224	7	0	248	457
Total	0	2	3	2	33	7	0	14	17	77	21	108	0	32	620	35	3	687	0	55	844	63	2	962	1764
Approach %	0.0	28.6	42.9	28.6	-	-	0.0	13.0	15.7	71.3	-	-	0.0	4.7	90.2	5.1	-	-	0.0	5.7	87.7	6.5	-	-	-
Total %	0.0	0.1	0.2	0.1	-	0.4	0.0	0.8	1.0	4.4	-	6.1	0.0	1.8	35.1	2.0	-	38.9	0.0	3.1	47.8	3.6	-	54.5	-
PHF	0.000	0.500	0.750	0.500	-	0.583	0.000	0.438	0.708	0.802	-	0.711	0.000	0.727	0.934	0.729	-	0.918	0.000	0.809	0.942	0.788	-	0.970	0.965
Lights	0	2	3	2	-	7	0	14	17	77	-	108	0	32	609	34	-	675	0	55	823	63	-	941	1731
% Lights	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	-	100.0	98.2	97.1	-	98.3	-	100.0	97.5	100.0	-	97.8	98.1
Other Vehicles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	11	1	-	12	0	0	21	0	-	21	33
% Other Vehicles	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	1.8	2.9	-	1.7	-	0.0	2.5	0.0	-	2.2	1.9
Pedestrians	-	-	-	-	33	-	-	-	-	-	21	-	-	-	-	-	3	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

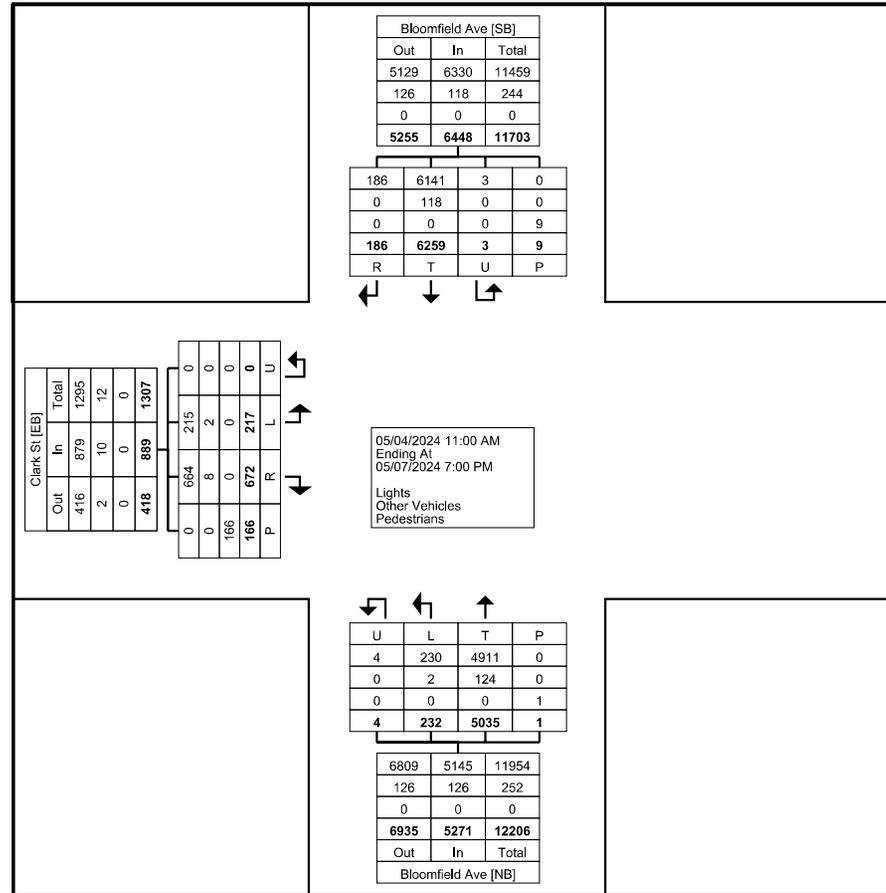


Turning Movement Peak Hour Data Plot (5:00 PM)

### Turning Movement Data

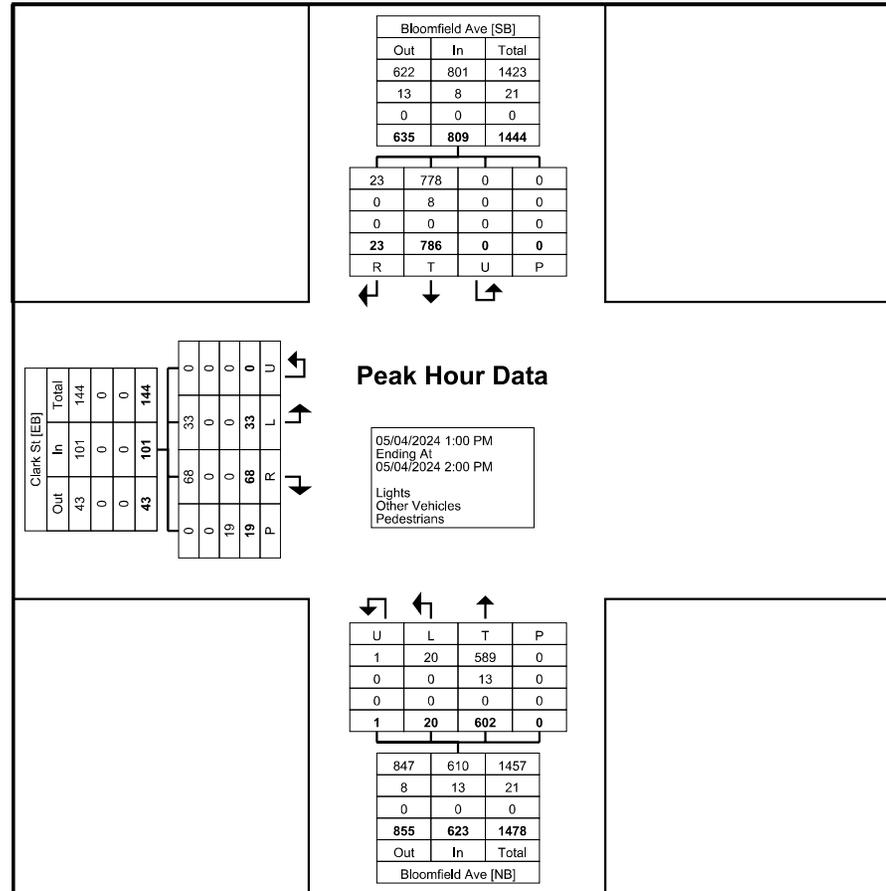
Start Time	Clark St Eastbound					Bloomfield Ave Northbound					Bloomfield Ave Southbound					Int. Total
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	
11:00 AM	0	6	20	5	26	0	8	157	1	165	0	199	1	0	200	391
11:15 AM	0	3	15	5	18	1	7	153	0	161	0	169	7	0	176	355
11:30 AM	0	4	14	3	18	1	5	150	0	156	0	189	7	0	196	370
11:45 AM	0	5	16	13	21	0	4	124	0	128	1	169	3	0	173	322
Hourly Total	0	18	65	26	83	2	24	584	1	610	1	726	18	0	745	1438
12:00 PM	0	6	20	5	26	0	3	205	0	208	0	180	5	0	185	419
12:15 PM	0	8	20	3	28	0	5	132	0	137	1	188	8	0	197	362
12:30 PM	0	12	23	3	35	0	4	159	0	163	1	211	5	0	217	415
12:45 PM	0	4	16	3	20	0	2	171	0	173	0	186	7	0	193	386
Hourly Total	0	30	79	14	109	0	14	667	0	681	2	765	25	0	792	1582
1:00 PM	0	9	20	3	29	0	5	142	0	147	0	183	6	0	189	365
1:15 PM	0	6	21	5	27	0	2	140	0	142	0	210	5	0	215	384
1:30 PM	0	6	18	4	24	1	6	162	0	169	0	203	6	0	209	402
1:45 PM	0	12	9	7	21	0	7	158	0	165	0	190	6	0	196	382
Hourly Total	0	33	68	19	101	1	20	602	0	623	0	786	23	0	809	1533
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	8	7	2	15	0	4	115	0	119	0	126	0	0	126	260
7:15 AM	0	11	15	2	26	1	9	134	0	144	0	158	2	1	160	330
7:30 AM	0	13	30	4	43	0	8	206	0	214	0	165	3	1	168	425
7:45 AM	0	8	30	4	38	0	18	219	0	237	0	211	9	1	220	495
Hourly Total	0	40	82	12	122	1	39	674	0	714	0	660	14	3	674	1510
8:00 AM	0	4	25	2	29	0	14	176	0	190	0	181	3	0	184	403
8:15 AM	0	11	22	1	33	0	15	182	0	197	0	177	4	2	181	411
8:30 AM	0	9	22	1	31	0	20	186	0	206	0	202	7	0	209	446
8:45 AM	0	3	11	6	14	0	15	231	0	246	0	171	6	0	177	437
Hourly Total	0	27	80	10	107	0	64	775	0	839	0	731	20	2	751	1697
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:45 PM	0	0	0	0	0	0	0	7	0	7	0	20	1	0	21	28
Hourly Total	0	0	0	0	0	0	0	7	0	7	0	20	1	0	21	28
4:00 PM	0	2	27	4	29	0	4	138	0	142	0	231	4	2	235	406
4:15 PM	0	3	26	13	29	0	7	140	0	147	0	244	7	0	251	427
4:30 PM	0	8	21	4	29	0	3	151	0	154	0	230	7	1	237	420
4:45 PM	0	6	20	4	26	0	5	121	0	126	0	272	10	0	282	434
Hourly Total	0	19	94	25	113	0	19	550	0	569	0	977	28	3	1005	1687
5:00 PM	0	8	32	8	40	0	9	153	0	162	0	212	11	1	223	425
5:15 PM	0	8	35	7	43	0	5	141	0	146	0	230	8	0	238	427
5:30 PM	0	7	37	6	44	0	9	150	0	159	0	224	4	0	228	431
5:45 PM	0	10	27	11	37	0	8	164	0	172	0	229	8	0	237	446
Hourly Total	0	33	131	32	164	0	31	608	0	639	0	895	31	1	926	1729
6:00 PM	0	2	26	16	28	0	10	147	0	157	0	168	10	0	178	363

6:15 PM	0	4	18	6	22	0	4	146	0	150	0	200	6	0	206	378
6:30 PM	0	6	16	4	22	0	3	150	0	153	0	173	7	0	180	355
6:45 PM	0	5	13	2	18	0	4	125	0	129	0	158	3	0	161	308
Hourly Total	0	17	73	28	90	0	21	568	0	589	0	699	26	0	725	1404
Grand Total	0	217	672	166	889	4	232	5035	1	5271	3	6259	186	9	6448	12608
Approach %	0.0	24.4	75.6	-	-	0.1	4.4	95.5	-	-	0.0	97.1	2.9	-	-	-
Total %	0.0	1.7	5.3	-	7.1	0.0	1.8	39.9	-	41.8	0.0	49.6	1.5	-	51.1	-
Lights	0	215	664	-	879	4	230	4911	-	5145	3	6141	186	-	6330	12354
% Lights	-	99.1	98.8	-	98.9	100.0	99.1	97.5	-	97.6	100.0	98.1	100.0	-	98.2	98.0
Other Vehicles	0	2	8	-	10	0	2	124	-	126	0	118	0	-	118	254
% Other Vehicles	-	0.9	1.2	-	1.1	0.0	0.9	2.5	-	2.4	0.0	1.9	0.0	-	1.8	2.0
Pedestrians	-	-	-	166	-	-	-	-	1	-	-	-	-	9	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-



Turning Movement Data Plot

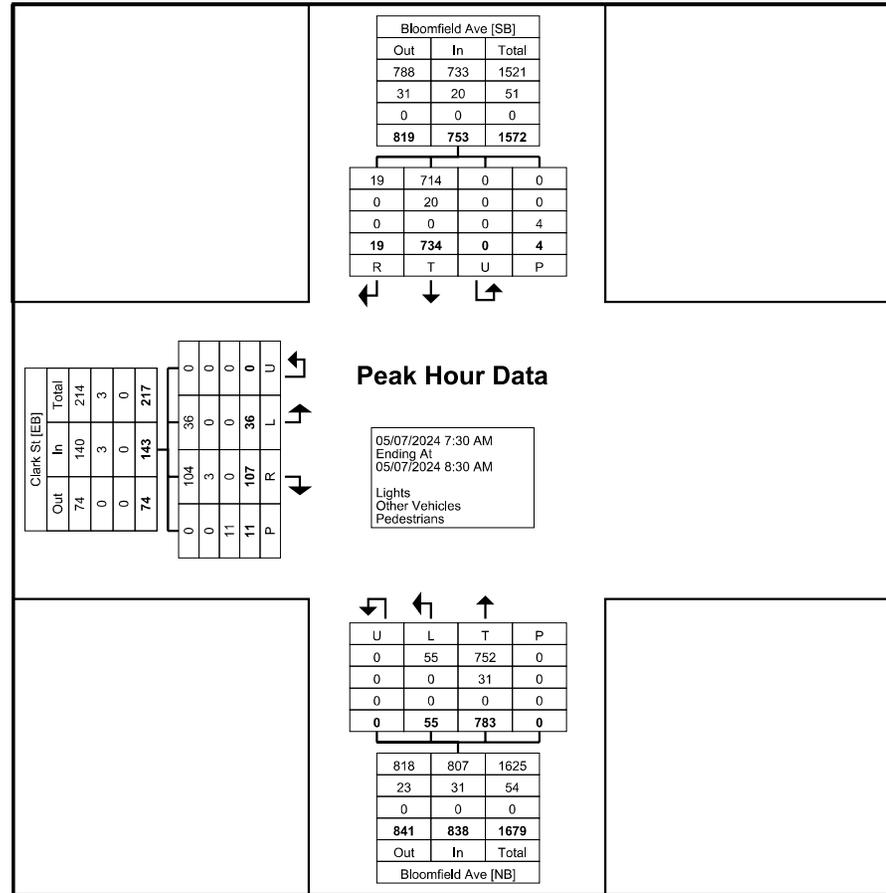




Turning Movement Peak Hour Data Plot (1:00 PM)

### Turning Movement Peak Hour Data (7:30 AM)

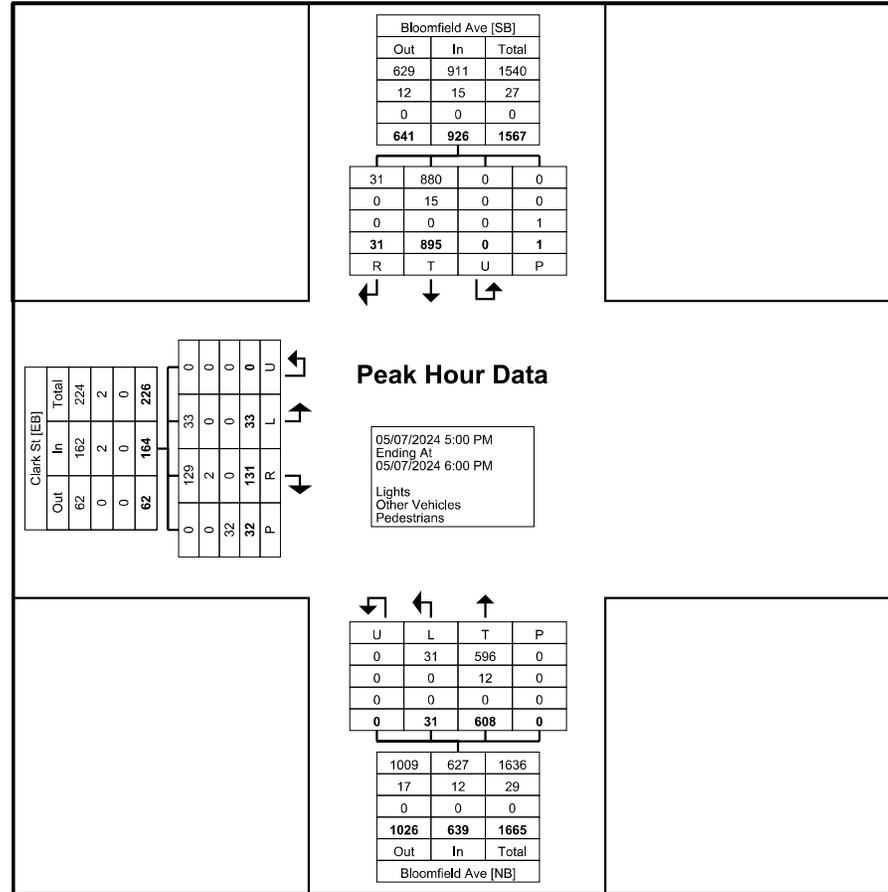
Start Time	Clark St Eastbound					Bloomfield Ave Northbound					Bloomfield Ave Southbound				Int. Total	
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds		App. Total
7:30 AM	0	13	30	4	43	0	8	206	0	214	0	165	3	1	168	425
7:45 AM	0	8	30	4	38	0	18	219	0	237	0	211	9	1	220	495
8:00 AM	0	4	25	2	29	0	14	176	0	190	0	181	3	0	184	403
8:15 AM	0	11	22	1	33	0	15	182	0	197	0	177	4	2	181	411
Total	0	36	107	11	143	0	55	783	0	838	0	734	19	4	753	1734
Approach %	0.0	25.2	74.8	-	-	0.0	6.6	93.4	-	-	0.0	97.5	2.5	-	-	-
Total %	0.0	2.1	6.2	-	8.2	0.0	3.2	45.2	-	48.3	0.0	42.3	1.1	-	43.4	-
PHF	0.000	0.692	0.892	-	0.831	0.000	0.764	0.894	-	0.884	0.000	0.870	0.528	-	0.856	0.876
Lights	0	36	104	-	140	0	55	752	-	807	0	714	19	-	733	1680
% Lights	-	100.0	97.2	-	97.9	-	100.0	96.0	-	96.3	-	97.3	100.0	-	97.3	96.9
Other Vehicles	0	0	3	-	3	0	0	31	-	31	0	20	0	-	20	54
% Other Vehicles	-	0.0	2.8	-	2.1	-	0.0	4.0	-	3.7	-	2.7	0.0	-	2.7	3.1
Pedestrians	-	-	-	11	-	-	-	-	0	-	-	-	-	4	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (7:30 AM)

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Clark St Eastbound					Bloomfield Ave Northbound					Bloomfield Ave Southbound				Int. Total	
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds		App. Total
5:00 PM	0	8	32	8	40	0	9	153	0	162	0	212	11	1	223	425
5:15 PM	0	8	35	7	43	0	5	141	0	146	0	230	8	0	238	427
5:30 PM	0	7	37	6	44	0	9	150	0	159	0	224	4	0	228	431
5:45 PM	0	10	27	11	37	0	8	164	0	172	0	229	8	0	237	446
Total	0	33	131	32	164	0	31	608	0	639	0	895	31	1	926	1729
Approach %	0.0	20.1	79.9	-	-	0.0	4.9	95.1	-	-	0.0	96.7	3.3	-	-	-
Total %	0.0	1.9	7.6	-	9.5	0.0	1.8	35.2	-	37.0	0.0	51.8	1.8	-	53.6	-
PHF	0.000	0.825	0.885	-	0.932	0.000	0.861	0.927	-	0.929	0.000	0.973	0.705	-	0.973	0.969
Lights	0	33	129	-	162	0	31	596	-	627	0	880	31	-	911	1700
% Lights	-	100.0	98.5	-	98.8	-	100.0	98.0	-	98.1	-	98.3	100.0	-	98.4	98.3
Other Vehicles	0	0	2	-	2	0	0	12	-	12	0	15	0	-	15	29
% Other Vehicles	-	0.0	1.5	-	1.2	-	0.0	2.0	-	1.9	-	1.7	0.0	-	1.6	1.7
Pedestrians	-	-	-	32	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (5:00 PM)

### Turning Movement Data

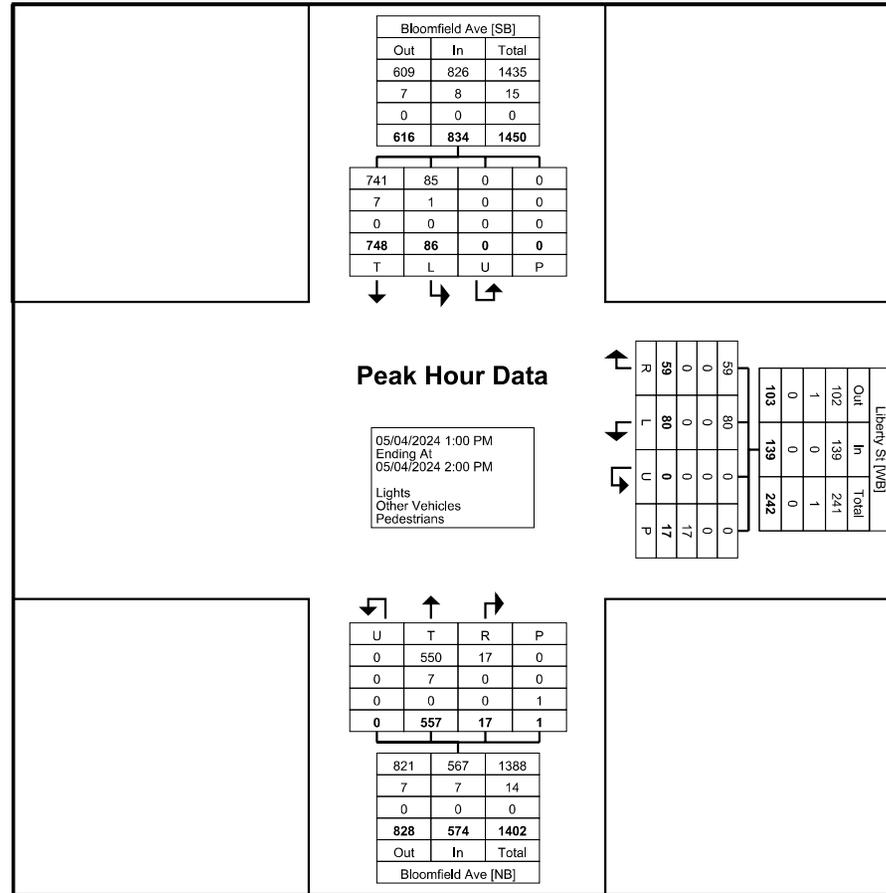
Start Time	Liberty St Westbound					Bloomfield Ave Northbound					Bloomfield Ave Southbound					Int. Total
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	
11:00 AM	0	21	11	3	32	0	150	4	0	154	0	20	185	0	205	391
11:15 AM	0	17	18	2	35	0	139	1	0	140	0	13	143	0	156	331
11:30 AM	0	18	15	6	33	0	140	3	1	143	0	25	164	1	189	365
11:45 AM	0	29	23	3	52	0	104	1	0	105	0	16	160	7	176	333
Hourly Total	0	85	67	14	152	0	533	9	1	542	0	74	652	8	726	1420
12:00 PM	0	23	16	9	39	0	196	4	2	200	0	20	175	0	195	434
12:15 PM	0	24	17	3	41	0	123	3	0	126	0	25	177	0	202	369
12:30 PM	0	14	14	10	28	0	153	1	5	154	0	12	222	0	234	416
12:45 PM	0	19	19	2	38	0	158	2	2	160	0	20	172	0	192	390
Hourly Total	0	80	66	24	146	0	630	10	9	640	0	77	746	0	823	1609
1:00 PM	0	21	12	3	33	0	133	4	0	137	0	21	172	0	193	363
1:15 PM	0	21	13	3	34	0	130	3	0	133	0	21	198	0	219	386
1:30 PM	0	18	18	8	36	0	144	5	1	149	0	22	198	0	220	405
1:45 PM	0	20	16	3	36	0	150	5	0	155	0	22	180	0	202	393
Hourly Total	0	80	59	17	139	0	557	17	1	574	0	86	748	0	834	1547
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:00 AM	0	12	11	0	23	0	111	3	2	114	0	8	132	0	140	277
7:15 AM	1	21	21	0	43	0	116	1	1	117	0	7	153	2	160	320
7:30 AM	0	33	26	0	59	0	188	0	2	188	0	24	192	1	216	463
7:45 AM	0	43	32	0	75	0	184	0	0	184	0	27	155	3	182	441
Hourly Total	1	109	90	0	200	0	599	4	5	603	0	66	632	6	698	1501
8:00 AM	0	25	24	1	49	0	166	0	0	166	0	33	184	0	217	432
8:15 AM	0	21	18	1	39	0	184	0	0	184	0	23	154	1	177	400
8:30 AM	0	23	26	1	49	0	176	2	0	178	0	23	187	1	210	437
8:45 AM	0	26	32	1	58	0	203	4	0	207	0	25	132	0	157	422
Hourly Total	0	95	100	4	195	0	729	6	0	735	0	104	657	2	761	1691
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:45 PM	0	2	1	0	3	0	3	0	0	3	0	4	3	0	7	13
Hourly Total	0	2	1	0	3	0	3	0	0	3	0	4	3	0	7	13
4:00 PM	0	23	12	2	35	0	125	2	0	127	0	31	217	0	248	410
4:15 PM	0	16	16	3	32	0	125	2	0	127	0	35	207	0	242	401
4:30 PM	0	21	17	1	38	0	131	4	0	135	0	28	192	1	220	393
4:45 PM	0	24	13	0	37	0	103	2	0	105	0	35	227	0	262	404
Hourly Total	0	84	58	6	142	0	484	10	0	494	0	129	843	1	972	1608
5:00 PM	0	18	12	5	30	0	141	8	0	149	0	29	217	6	246	425
5:15 PM	0	23	17	5	40	0	123	5	0	128	0	47	202	0	249	417
5:30 PM	0	39	13	2	52	0	137	6	0	143	0	44	211	1	255	450
5:45 PM	0	25	18	7	43	0	117	8	0	125	0	37	192	3	229	397

Hourly Total	0	105	60	19	165	0	518	27	0	545	0	157	822	10	979	1689
6:00 PM	0	23	18	10	41	0	136	4	0	140	0	42	161	0	203	384
6:15 PM	0	18	3	2	21	0	140	3	0	143	0	18	180	0	198	362
6:30 PM	0	21	11	10	32	0	135	3	0	138	0	22	170	1	192	362
6:45 PM	0	17	11	7	28	0	119	6	1	125	0	16	152	0	168	321
Hourly Total	0	79	43	29	122	0	530	16	1	546	0	98	663	1	761	1429
Grand Total	1	719	544	113	1264	0	4583	99	17	4682	0	795	5767	28	6562	12508
Approach %	0.1	56.9	43.0	-	-	0.0	97.9	2.1	-	-	0.0	12.1	87.9	-	-	-
Total %	0.0	5.7	4.3	-	10.1	0.0	36.6	0.8	-	37.4	0.0	6.4	46.1	-	52.5	-
Lights	0	714	539	-	1253	0	4473	98	-	4571	0	784	5650	-	6434	12258
% Lights	0.0	99.3	99.1	-	99.1	-	97.6	99.0	-	97.6	-	98.6	98.0	-	98.0	98.0
Other Vehicles	1	5	5	-	11	0	110	1	-	111	0	11	117	-	128	250
% Other Vehicles	100.0	0.7	0.9	-	0.9	-	2.4	1.0	-	2.4	-	1.4	2.0	-	2.0	2.0
Pedestrians	-	-	-	113	-	-	-	-	17	-	-	-	-	28	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-



### Turning Movement Peak Hour Data (1:00 PM)

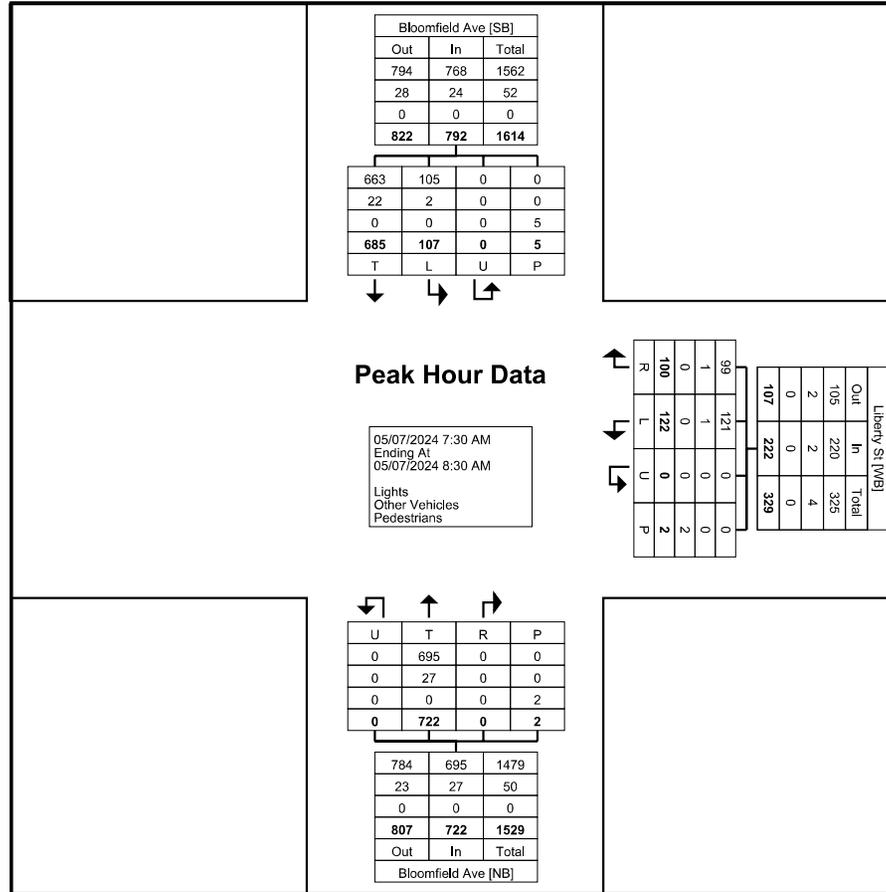
Start Time	Liberty St Westbound					Bloomfield Ave Northbound					Bloomfield Ave Southbound				Int. Total	
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds		App. Total
1:00 PM	0	21	12	3	33	0	133	4	0	137	0	21	172	0	193	363
1:15 PM	0	21	13	3	34	0	130	3	0	133	0	21	198	0	219	386
1:30 PM	0	18	18	8	36	0	144	5	1	149	0	22	198	0	220	405
1:45 PM	0	20	16	3	36	0	150	5	0	155	0	22	180	0	202	393
Total	0	80	59	17	139	0	557	17	1	574	0	86	748	0	834	1547
Approach %	0.0	57.6	42.4	-	-	0.0	97.0	3.0	-	-	0.0	10.3	89.7	-	-	-
Total %	0.0	5.2	3.8	-	9.0	0.0	36.0	1.1	-	37.1	0.0	5.6	48.4	-	53.9	-
PHF	0.000	0.952	0.819	-	0.965	0.000	0.928	0.850	-	0.926	0.000	0.977	0.944	-	0.948	0.955
Lights	0	80	59	-	139	0	550	17	-	567	0	85	741	-	826	1532
% Lights	-	100.0	100.0	-	100.0	-	98.7	100.0	-	98.8	-	98.8	99.1	-	99.0	99.0
Other Vehicles	0	0	0	-	0	0	7	0	-	7	0	1	7	-	8	15
% Other Vehicles	-	0.0	0.0	-	0.0	-	1.3	0.0	-	1.2	-	1.2	0.9	-	1.0	1.0
Pedestrians	-	-	-	17	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-



Turning Movement Peak Hour Data Plot (1:00 PM)

### Turning Movement Peak Hour Data (7:30 AM)

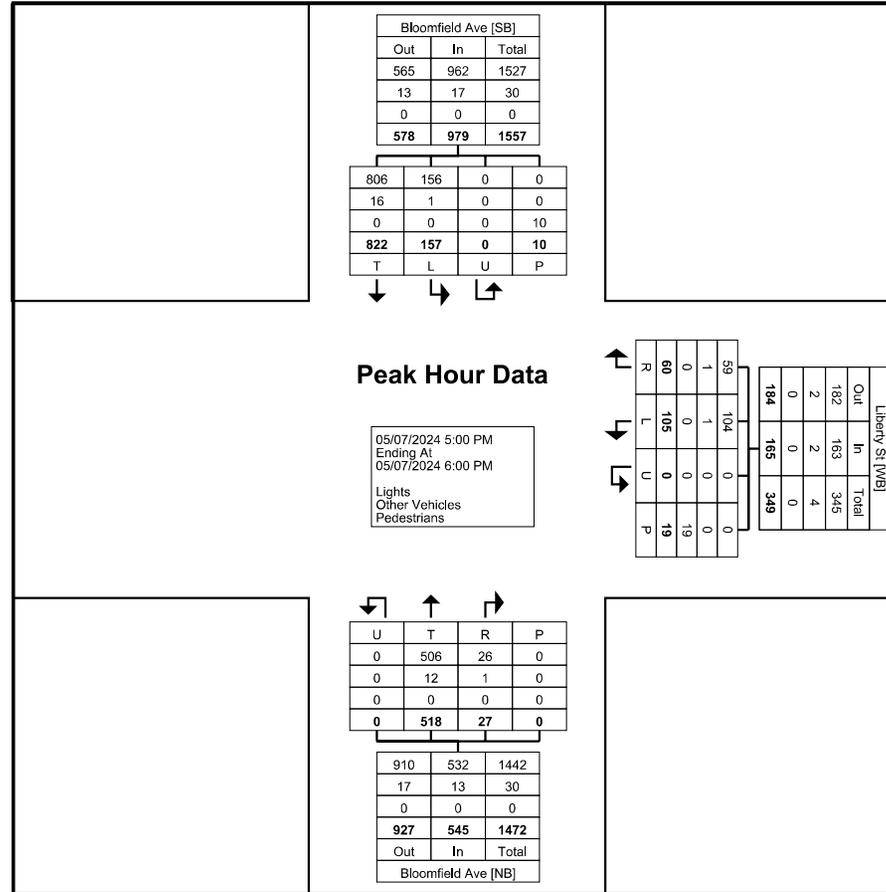
Start Time	Liberty St Westbound					Bloomfield Ave Northbound					Bloomfield Ave Southbound				Int. Total	
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds		App. Total
7:30 AM	0	33	26	0	59	0	188	0	2	188	0	24	192	1	216	463
7:45 AM	0	43	32	0	75	0	184	0	0	184	0	27	155	3	182	441
8:00 AM	0	25	24	1	49	0	166	0	0	166	0	33	184	0	217	432
8:15 AM	0	21	18	1	39	0	184	0	0	184	0	23	154	1	177	400
Total	0	122	100	2	222	0	722	0	2	722	0	107	685	5	792	1736
Approach %	0.0	55.0	45.0	-	-	0.0	100.0	0.0	-	-	0.0	13.5	86.5	-	-	-
Total %	0.0	7.0	5.8	-	12.8	0.0	41.6	0.0	-	41.6	0.0	6.2	39.5	-	45.6	-
PHF	0.000	0.709	0.781	-	0.740	0.000	0.960	0.000	-	0.960	0.000	0.811	0.892	-	0.912	0.937
Lights	0	121	99	-	220	0	695	0	-	695	0	105	663	-	768	1683
% Lights	-	99.2	99.0	-	99.1	-	96.3	-	-	96.3	-	98.1	96.8	-	97.0	96.9
Other Vehicles	0	1	1	-	2	0	27	0	-	27	0	2	22	-	24	53
% Other Vehicles	-	0.8	1.0	-	0.9	-	3.7	-	-	3.7	-	1.9	3.2	-	3.0	3.1
Pedestrians	-	-	-	2	-	-	-	-	2	-	-	-	-	5	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (7:30 AM)

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Liberty St Westbound					Bloomfield Ave Northbound					Bloomfield Ave Southbound				Int. Total	
	U-Turn	Left	Right	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds		App. Total
5:00 PM	0	18	12	5	30	0	141	8	0	149	0	29	217	6	246	425
5:15 PM	0	23	17	5	40	0	123	5	0	128	0	47	202	0	249	417
5:30 PM	0	39	13	2	52	0	137	6	0	143	0	44	211	1	255	450
5:45 PM	0	25	18	7	43	0	117	8	0	125	0	37	192	3	229	397
Total	0	105	60	19	165	0	518	27	0	545	0	157	822	10	979	1689
Approach %	0.0	63.6	36.4	-	-	0.0	95.0	5.0	-	-	0.0	16.0	84.0	-	-	-
Total %	0.0	6.2	3.6	-	9.8	0.0	30.7	1.6	-	32.3	0.0	9.3	48.7	-	58.0	-
PHF	0.000	0.673	0.833	-	0.793	0.000	0.918	0.844	-	0.914	0.000	0.835	0.947	-	0.960	0.938
Lights	0	104	59	-	163	0	506	26	-	532	0	156	806	-	962	1657
% Lights	-	99.0	98.3	-	98.8	-	97.7	96.3	-	97.6	-	99.4	98.1	-	98.3	98.1
Other Vehicles	0	1	1	-	2	0	12	1	-	13	0	1	16	-	17	32
% Other Vehicles	-	1.0	1.7	-	1.2	-	2.3	3.7	-	2.4	-	0.6	1.9	-	1.7	1.9
Pedestrians	-	-	-	19	-	-	-	-	0	-	-	-	-	10	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (5:00 PM)

### Turning Movement Data

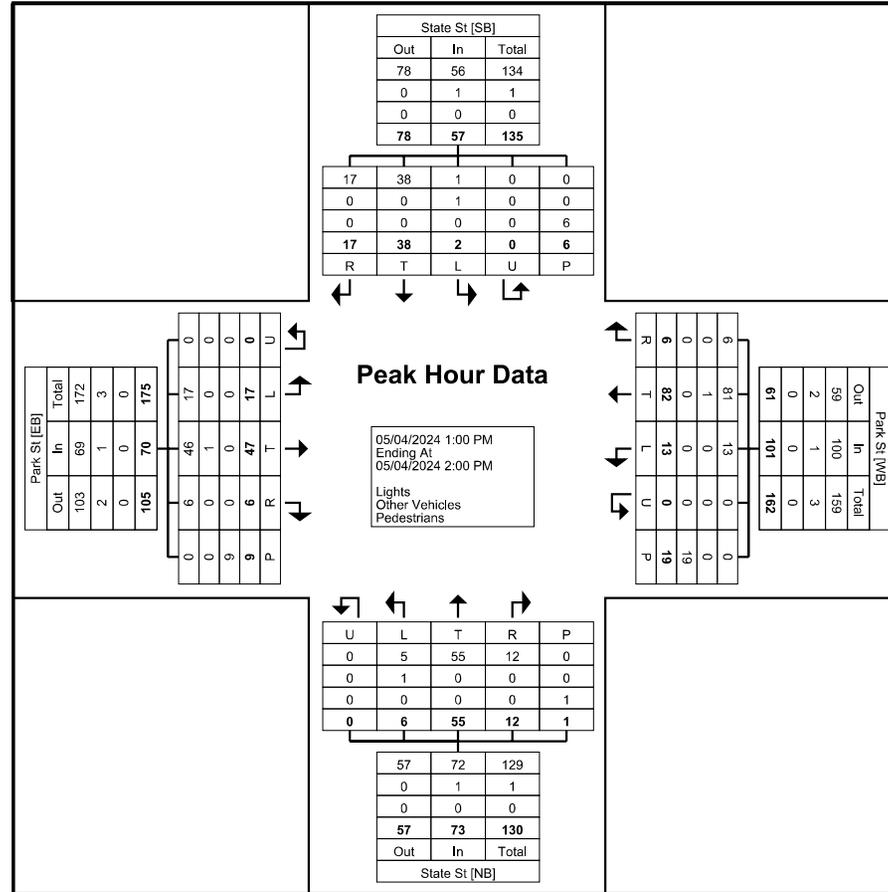
Start Time	Park St Eastbound						Park St Westbound						State St Northbound						State St Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
11:00 AM	0	1	4	1	1	6	0	1	25	2	6	28	0	1	21	4	2	26	0	2	13	3	1	18	78
11:15 AM	0	3	14	2	2	19	0	4	34	2	0	40	0	1	9	2	3	12	0	0	13	8	0	21	92
11:30 AM	0	1	8	0	1	9	0	7	31	2	3	40	0	2	18	6	1	26	0	2	5	6	2	13	88
11:45 AM	0	0	10	3	2	13	0	12	21	1	4	34	0	1	11	1	4	13	0	2	8	2	1	12	72
Hourly Total	0	5	36	6	6	47	0	24	111	7	13	142	0	5	59	13	10	77	0	6	39	19	4	64	330
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:45 PM	0	1	1	0	0	2	0	0	8	1	2	9	0	0	4	2	0	6	0	1	3	0	0	4	21
Hourly Total	0	1	1	0	0	2	0	0	8	1	2	9	0	0	4	2	0	6	0	1	3	0	0	4	21
1:00 PM	0	4	9	2	0	15	0	2	23	1	5	26	0	2	19	2	0	23	0	0	9	5	0	14	78
1:15 PM	0	3	15	3	4	21	0	3	15	2	6	20	0	1	15	2	1	18	0	1	9	2	2	12	71
1:30 PM	0	4	10	0	4	14	0	5	23	2	5	30	0	1	8	4	0	13	0	0	6	4	3	10	67
1:45 PM	0	6	13	1	1	20	0	3	21	1	3	25	0	2	13	4	0	19	0	1	14	6	1	21	85
Hourly Total	0	17	47	6	9	70	0	13	82	6	19	101	0	6	55	12	1	73	0	2	38	17	6	57	301
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6:00 AM	0	0	5	0	0	5	0	1	3	1	0	5	0	0	4	0	1	4	0	0	2	3	1	5	19
6:15 AM	0	1	7	0	1	8	0	1	4	1	0	6	0	0	2	0	0	2	0	0	1	1	0	2	18
6:30 AM	0	1	7	1	0	9	0	1	10	1	1	12	0	0	5	2	0	7	0	0	8	0	2	8	36
6:45 AM	0	2	3	1	0	6	0	5	12	2	3	19	0	0	8	0	0	8	0	0	6	4	0	10	43
Hourly Total	0	4	22	2	1	28	0	8	29	5	4	42	0	0	19	2	1	21	0	0	17	8	3	25	116
7:00 AM	0	4	10	2	1	16	0	5	16	6	2	27	0	2	11	4	2	17	0	5	9	2	4	16	76
7:15 AM	0	4	14	2	3	20	0	8	36	18	8	62	0	1	20	4	1	25	0	9	15	6	1	30	137
7:30 AM	0	5	6	1	7	12	0	18	34	33	6	85	0	2	40	5	2	47	0	17	20	9	8	46	190
7:45 AM	0	5	4	1	6	10	0	14	26	27	9	67	0	4	33	5	4	42	0	11	35	8	4	54	173
Hourly Total	0	18	34	6	17	58	0	45	112	84	25	241	0	9	104	18	9	131	0	42	79	25	17	146	576
8:00 AM	0	6	11	2	4	19	0	5	21	12	6	38	0	3	24	1	2	28	0	6	16	2	3	24	109
8:15 AM	0	7	8	2	1	17	0	5	31	8	8	44	0	1	12	4	2	17	0	2	17	2	2	21	99
8:30 AM	0	3	15	2	3	20	0	1	31	12	5	44	0	1	17	2	3	20	0	4	15	4	1	23	107
8:45 AM	0	1	11	2	0	14	0	10	24	8	4	42	0	1	15	4	5	20	0	5	14	5	2	24	100
Hourly Total	0	17	45	8	8	70	0	21	107	40	23	168	0	6	68	11	12	85	0	17	62	13	8	92	415
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:45 PM	0	0	1	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	4
Hourly Total	0	0	1	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	4
4:00 PM	0	1	8	3	2	12	0	7	20	1	1	28	0	1	7	1	2	9	0	3	19	8	0	30	79
4:15 PM	0	4	3	2	2	9	0	7	14	4	2	25	0	1	15	2	1	18	0	1	6	3	1	10	62
4:30 PM	0	5	12	2	3	19	0	4	20	4	2	28	0	2	13	1	2	16	0	7	9	4	4	20	83
4:45 PM	0	1	11	2	3	14	0	7	23	5	5	35	0	1	12	3	5	16	0	3	14	5	3	22	87
Hourly Total	0	11	34	9	10	54	0	25	77	14	10	116	0	5	47	7	10	59	0	14	48	20	8	82	311
5:00 PM	0	4	9	2	4	15	0	3	24	3	6	30	0	4	33	1	2	38	0	1	16	6	1	23	106
5:15 PM	0	2	14	3	4	19	0	4	23	7	2	34	0	2	7	2	3	11	0	2	12	4	3	18	82

5:30 PM	0	5	14	3	2	22	1	6	22	3	4	32	0	2	16	7	2	25	0	2	15	6	0	23	102
5:45 PM	0	5	16	8	1	29	0	9	24	8	3	41	0	0	16	8	0	24	0	2	17	6	3	25	119
Hourly Total	0	16	53	16	11	85	1	22	93	21	15	137	0	8	72	18	7	98	0	7	60	22	7	89	409
6:00 PM	0	1	11	4	1	16	0	10	21	4	11	35	0	1	16	3	8	20	0	3	7	3	1	13	84
6:15 PM	0	1	11	2	0	14	0	2	23	5	1	30	0	0	13	4	0	17	0	0	5	4	1	9	70
6:30 PM	0	4	9	2	1	15	0	6	16	0	5	22	0	0	15	0	0	15	0	0	16	6	3	22	74
6:45 PM	0	3	8	3	5	14	1	7	19	2	7	29	0	2	7	2	2	11	0	0	8	6	0	14	68
Hourly Total	0	9	39	11	7	59	1	25	79	11	24	116	0	3	51	9	10	63	0	3	36	19	5	58	296
Grand Total	0	98	312	64	69	474	2	183	700	189	135	1074	0	42	479	92	60	613	0	92	383	143	58	618	2779
Approach %	0.0	20.7	65.8	13.5	-	-	0.2	17.0	65.2	17.6	-	-	0.0	6.9	78.1	15.0	-	-	0.0	14.9	62.0	23.1	-	-	-
Total %	0.0	3.5	11.2	2.3	-	17.1	0.1	6.6	25.2	6.8	-	38.6	0.0	1.5	17.2	3.3	-	22.1	0.0	3.3	13.8	5.1	-	22.2	-
Lights	0	98	309	63	-	470	2	180	694	182	-	1058	0	40	464	90	-	594	0	91	375	143	-	609	2731
% Lights	-	100.0	99.0	98.4	-	99.2	100.0	98.4	99.1	96.3	-	98.5	-	95.2	96.9	97.8	-	96.9	-	98.9	97.9	100.0	-	98.5	98.3
Other Vehicles	0	0	3	1	-	4	0	3	6	7	-	16	0	2	15	2	-	19	0	1	8	0	-	9	48
% Other Vehicles	-	0.0	1.0	1.6	-	0.8	0.0	1.6	0.9	3.7	-	1.5	-	4.8	3.1	2.2	-	3.1	-	1.1	2.1	0.0	-	1.5	1.7
Pedestrians	-	-	-	-	69	-	-	-	-	-	135	-	-	-	-	-	60	-	-	-	-	-	58	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



### Turning Movement Peak Hour Data (1:00 PM)

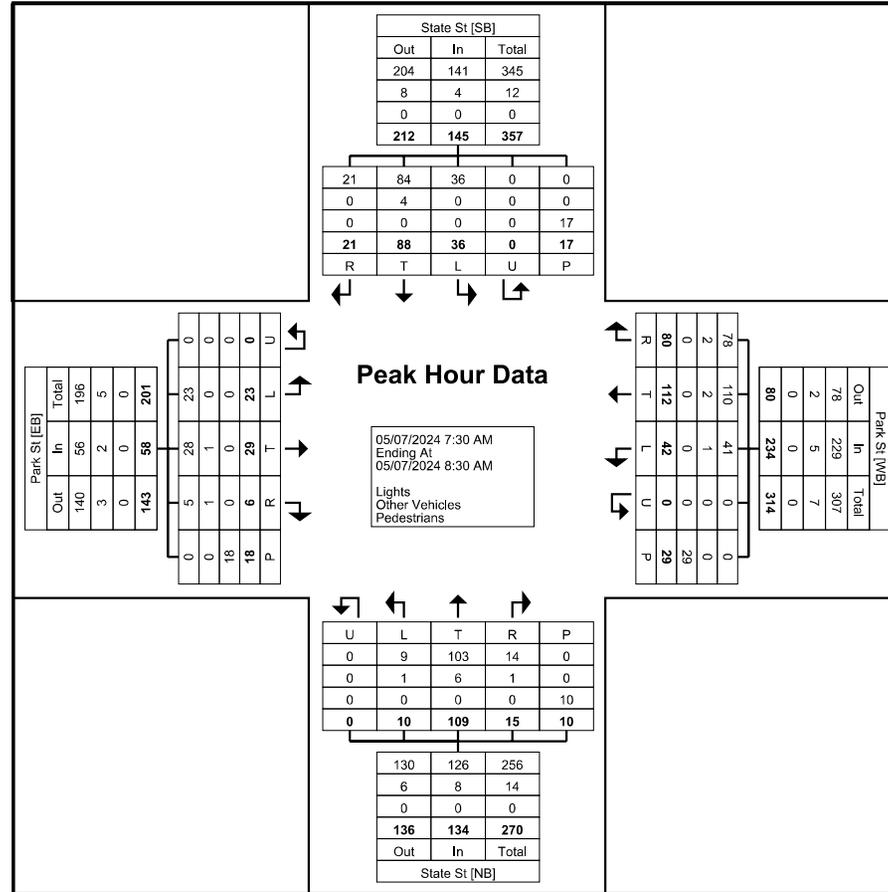
Start Time	Park St Eastbound						Park St Westbound						State St Northbound						State St Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
1:00 PM	0	4	9	2	0	15	0	2	23	1	5	26	0	2	19	2	0	23	0	0	9	5	0	14	78
1:15 PM	0	3	15	3	4	21	0	3	15	2	6	20	0	1	15	2	1	18	0	1	9	2	2	12	71
1:30 PM	0	4	10	0	4	14	0	5	23	2	5	30	0	1	8	4	0	13	0	0	6	4	3	10	67
1:45 PM	0	6	13	1	1	20	0	3	21	1	3	25	0	2	13	4	0	19	0	1	14	6	1	21	85
Total	0	17	47	6	9	70	0	13	82	6	19	101	0	6	55	12	1	73	0	2	38	17	6	57	301
Approach %	0.0	24.3	67.1	8.6	-	-	0.0	12.9	81.2	5.9	-	-	0.0	8.2	75.3	16.4	-	-	0.0	3.5	66.7	29.8	-	-	-
Total %	0.0	5.6	15.6	2.0	-	23.3	0.0	4.3	27.2	2.0	-	33.6	0.0	2.0	18.3	4.0	-	24.3	0.0	0.7	12.6	5.6	-	18.9	-
PHF	0.000	0.708	0.783	0.500	-	0.833	0.000	0.650	0.891	0.750	-	0.842	0.000	0.750	0.724	0.750	-	0.793	0.000	0.500	0.679	0.708	-	0.679	0.885
Lights	0	17	46	6	-	69	0	13	81	6	-	100	0	5	55	12	-	72	0	1	38	17	-	56	297
% Lights	-	100.0	97.9	100.0	-	98.6	-	100.0	98.8	100.0	-	99.0	-	83.3	100.0	100.0	-	98.6	-	50.0	100.0	100.0	-	98.2	98.7
Other Vehicles	0	0	1	0	-	1	0	0	1	0	-	1	0	1	0	0	-	1	0	1	0	0	-	1	4
% Other Vehicles	-	0.0	2.1	0.0	-	1.4	-	0.0	1.2	0.0	-	1.0	-	16.7	0.0	0.0	-	1.4	-	50.0	0.0	0.0	-	1.8	1.3
Pedestrians	-	-	-	-	9	-	-	-	-	-	19	-	-	-	-	-	1	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (1:00 PM)

### Turning Movement Peak Hour Data (7:30 AM)

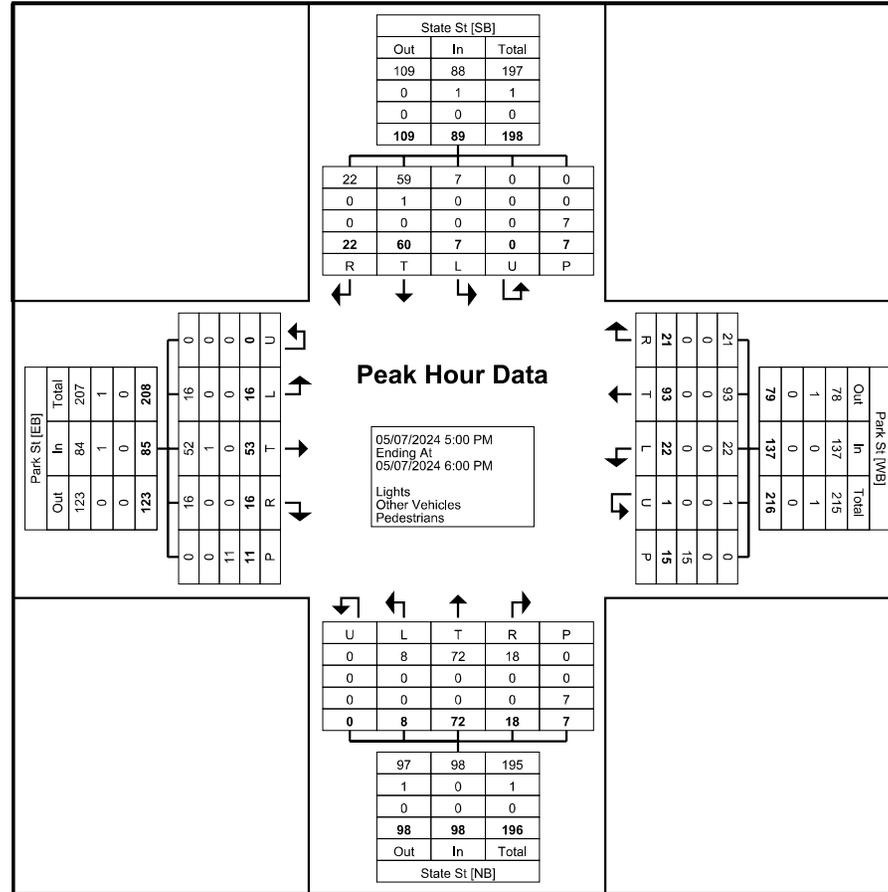
Start Time	Park St Eastbound						Park St Westbound						State St Northbound						State St Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30 AM	0	5	6	1	7	12	0	18	34	33	6	85	0	2	40	5	2	47	0	17	20	9	8	46	190
7:45 AM	0	5	4	1	6	10	0	14	26	27	9	67	0	4	33	5	4	42	0	11	35	8	4	54	173
8:00 AM	0	6	11	2	4	19	0	5	21	12	6	38	0	3	24	1	2	28	0	6	16	2	3	24	109
8:15 AM	0	7	8	2	1	17	0	5	31	8	8	44	0	1	12	4	2	17	0	2	17	2	2	21	99
Total	0	23	29	6	18	58	0	42	112	80	29	234	0	10	109	15	10	134	0	36	88	21	17	145	571
Approach %	0.0	39.7	50.0	10.3	-	-	0.0	17.9	47.9	34.2	-	-	0.0	7.5	81.3	11.2	-	-	0.0	24.8	60.7	14.5	-	-	-
Total %	0.0	4.0	5.1	1.1	-	10.2	0.0	7.4	19.6	14.0	-	41.0	0.0	1.8	19.1	2.6	-	23.5	0.0	6.3	15.4	3.7	-	25.4	-
PHF	0.000	0.821	0.659	0.750	-	0.763	0.000	0.583	0.824	0.606	-	0.688	0.000	0.625	0.681	0.750	-	0.713	0.000	0.529	0.629	0.583	-	0.671	0.751
Lights	0	23	28	5	-	56	0	41	110	78	-	229	0	9	103	14	-	126	0	36	84	21	-	141	552
% Lights	-	100.0	96.6	83.3	-	96.6	-	97.6	98.2	97.5	-	97.9	-	90.0	94.5	93.3	-	94.0	-	100.0	95.5	100.0	-	97.2	96.7
Other Vehicles	0	0	1	1	-	2	0	1	2	2	-	5	0	1	6	1	-	8	0	0	4	0	-	4	19
% Other Vehicles	-	0.0	3.4	16.7	-	3.4	-	2.4	1.8	2.5	-	2.1	-	10.0	5.5	6.7	-	6.0	-	0.0	4.5	0.0	-	2.8	3.3
Pedestrians	-	-	-	-	18	-	-	-	-	-	29	-	-	-	-	-	10	-	-	-	-	-	17	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (7:30 AM)

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Park St Eastbound						Park St Westbound						State St Northbound						State St Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
5:00 PM	0	4	9	2	4	15	0	3	24	3	6	30	0	4	33	1	2	38	0	1	16	6	1	23	106
5:15 PM	0	2	14	3	4	19	0	4	23	7	2	34	0	2	7	2	3	11	0	2	12	4	3	18	82
5:30 PM	0	5	14	3	2	22	1	6	22	3	4	32	0	2	16	7	2	25	0	2	15	6	0	23	102
5:45 PM	0	5	16	8	1	29	0	9	24	8	3	41	0	0	16	8	0	24	0	2	17	6	3	25	119
Total	0	16	53	16	11	85	1	22	93	21	15	137	0	8	72	18	7	98	0	7	60	22	7	89	409
Approach %	0.0	18.8	62.4	18.8	-	-	0.7	16.1	67.9	15.3	-	-	0.0	8.2	73.5	18.4	-	-	0.0	7.9	67.4	24.7	-	-	-
Total %	0.0	3.9	13.0	3.9	-	20.8	0.2	5.4	22.7	5.1	-	33.5	0.0	2.0	17.6	4.4	-	24.0	0.0	1.7	14.7	5.4	-	21.8	-
PHF	0.000	0.800	0.828	0.500	-	0.733	0.250	0.611	0.969	0.656	-	0.835	0.000	0.500	0.545	0.563	-	0.645	0.000	0.875	0.882	0.917	-	0.890	0.859
Lights	0	16	52	16	-	84	1	22	93	21	-	137	0	8	72	18	-	98	0	7	59	22	-	88	407
% Lights	-	100.0	98.1	100.0	-	98.8	100.0	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	-	100.0	98.3	100.0	-	98.9	99.5
Other Vehicles	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	2
% Other Vehicles	-	0.0	1.9	0.0	-	1.2	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	1.7	0.0	-	1.1	0.5
Pedestrians	-	-	-	-	11	-	-	-	-	-	15	-	-	-	-	-	7	-	-	-	-	-	7	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



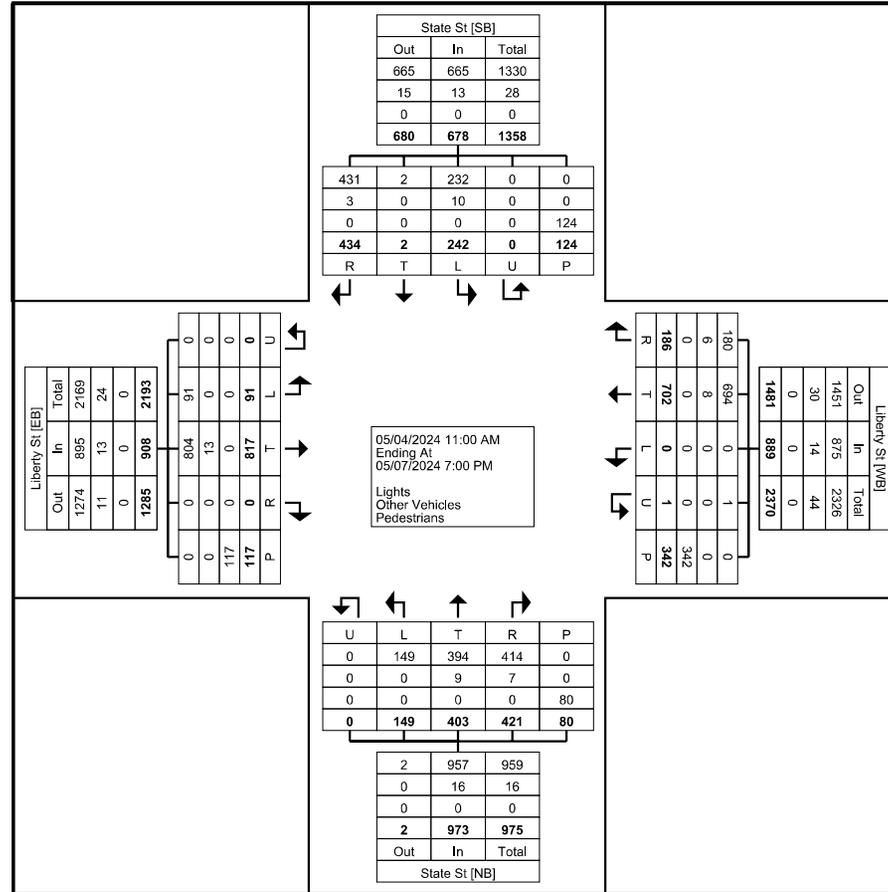
Turning Movement Peak Hour Data Plot (5:00 PM)

### Turning Movement Data

Start Time	Liberty St Eastbound						Liberty St Westbound						State St Northbound						State St Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
11:00 AM	0	9	15	0	3	24	0	0	15	4	13	19	0	7	13	8	6	28	0	7	0	11	12	18	89
11:15 AM	0	1	13	0	9	14	0	0	14	4	12	18	0	6	10	17	1	33	0	6	0	15	7	21	86
11:30 AM	0	6	23	0	3	29	0	0	23	3	13	26	0	5	14	11	2	30	0	4	0	3	3	7	92
11:45 AM	0	0	17	0	5	17	0	0	25	1	33	26	0	9	14	17	7	40	0	9	0	16	9	25	108
Hourly Total	0	16	68	0	20	84	0	0	77	12	71	89	0	27	51	53	16	131	0	26	0	45	31	71	375
12:00 PM	0	5	19	0	9	24	0	0	9	4	16	13	0	5	20	16	4	41	0	6	0	19	6	25	103
12:15 PM	0	7	21	0	2	28	0	0	19	1	19	20	0	11	13	13	0	37	0	10	0	16	11	26	111
12:30 PM	0	1	12	0	1	13	1	0	13	3	16	17	0	6	11	11	2	28	0	2	0	8	8	10	68
12:45 PM	0	3	19	0	5	22	0	0	22	6	16	28	0	6	12	19	1	37	0	5	0	12	6	17	104
Hourly Total	0	16	71	0	17	87	1	0	63	14	67	78	0	28	56	59	7	143	0	23	0	55	31	78	386
1:00 PM	0	5	21	0	1	26	0	0	19	6	10	25	0	3	18	13	0	34	0	4	0	13	1	17	102
1:15 PM	0	4	20	0	0	24	0	0	15	2	22	17	0	7	9	16	2	32	0	5	0	12	11	17	90
1:30 PM	0	3	24	0	2	27	0	0	24	8	14	32	0	5	6	14	2	25	0	4	0	11	6	15	99
1:45 PM	0	3	26	0	2	29	0	0	18	5	18	23	0	5	11	12	1	28	0	8	0	18	1	26	106
Hourly Total	0	15	91	0	5	106	0	0	76	21	64	97	0	20	44	55	5	119	0	21	0	54	19	75	397
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	0	13	0	0	13	0	0	15	5	3	20	0	1	12	4	4	17	0	8	0	8	1	16	66
7:15 AM	0	1	10	0	5	11	0	0	26	6	6	32	0	2	17	4	3	23	0	11	0	16	3	27	93
7:30 AM	0	2	23	0	4	25	0	0	34	18	9	52	0	0	28	7	1	35	0	10	0	26	1	36	148
7:45 AM	0	3	26	0	0	29	0	0	50	10	5	60	0	1	30	9	4	40	0	16	1	29	3	46	175
Hourly Total	0	6	72	0	9	78	0	0	125	39	23	164	0	4	87	24	12	115	0	45	1	79	8	125	482
8:00 AM	0	4	29	0	0	33	0	0	29	9	4	38	0	1	14	6	1	21	0	10	0	18	2	28	120
8:15 AM	0	1	19	0	5	20	0	0	28	6	6	34	0	1	11	4	4	16	0	9	0	14	2	23	93
8:30 AM	0	1	25	0	0	26	0	0	31	6	8	37	0	2	13	10	3	25	0	4	0	12	0	16	104
8:45 AM	0	6	24	0	2	30	0	0	32	3	2	35	0	6	11	5	0	22	0	6	0	17	4	23	110
Hourly Total	0	12	97	0	7	109	0	0	120	24	20	144	0	10	49	25	8	84	0	29	0	61	8	90	427
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:45 PM	0	0	4	0	0	4	0	0	1	0	0	1	0	1	0	1	0	2	0	0	0	1	0	1	8
Hourly Total	0	0	4	0	0	4	0	0	1	0	0	1	0	1	0	1	0	2	0	0	0	1	0	1	8
4:00 PM	0	0	33	0	2	33	0	0	17	3	6	20	0	3	8	10	6	21	0	13	0	15	2	28	102
4:15 PM	0	0	38	0	10	38	0	0	22	7	10	29	0	5	6	9	1	20	0	8	0	8	5	16	103
4:30 PM	0	2	30	0	2	32	0	0	24	5	9	29	0	5	10	21	0	36	0	7	0	11	3	18	115
4:45 PM	0	5	33	0	0	38	0	0	21	5	8	26	0	3	11	19	3	33	0	11	0	12	0	23	120
Hourly Total	0	7	134	0	14	141	0	0	84	20	33	104	0	16	35	59	10	110	0	39	0	46	10	85	440
5:00 PM	0	4	33	0	25	37	0	0	16	12	15	28	0	4	13	18	6	35	0	8	1	10	4	19	119
5:15 PM	0	3	48	0	3	51	0	0	29	7	4	36	0	3	3	17	3	23	0	9	0	13	1	22	132
5:30 PM	0	4	46	0	1	50	0	0	26	9	6	35	0	9	12	20	1	41	0	8	0	15	1	23	149
5:45 PM	0	2	44	0	0	46	0	0	23	5	6	28	0	6	15	20	4	41	0	16	0	17	1	33	148
Hourly Total	0	13	171	0	29	184	0	0	94	33	31	127	0	22	43	75	14	140	0	41	1	55	7	97	548



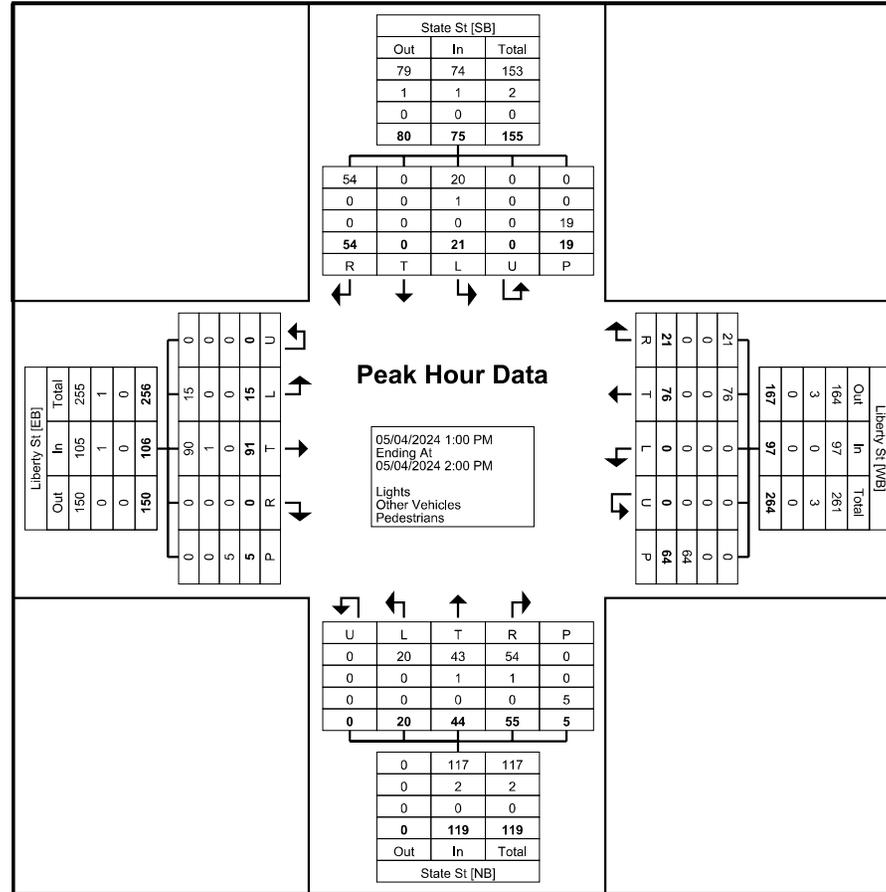
6:00 PM	0	3	43	0	4	46	0	0	17	7	7	24	0	10	10	21	2	41	0	2	0	17	3	19	130
6:15 PM	0	2	20	0	8	22	0	0	12	3	10	15	0	2	10	10	3	22	0	3	0	6	5	9	68
6:30 PM	0	1	26	0	1	27	0	0	19	4	9	23	0	5	9	16	2	30	0	10	0	7	2	17	97
6:45 PM	0	0	20	0	3	20	0	0	14	9	7	23	0	4	9	23	1	36	0	3	0	8	0	11	90
Hourly Total	0	6	109	0	16	115	0	0	62	23	33	85	0	21	38	70	8	129	0	18	0	38	10	56	385
Grand Total	0	91	817	0	117	908	1	0	702	186	342	889	0	149	403	421	80	973	0	242	2	434	124	678	3448
Approach %	0.0	10.0	90.0	0.0	-	-	0.1	0.0	79.0	20.9	-	-	0.0	15.3	41.4	43.3	-	-	0.0	35.7	0.3	64.0	-	-	-
Total %	0.0	2.6	23.7	0.0	-	26.3	0.0	0.0	20.4	5.4	-	25.8	0.0	4.3	11.7	12.2	-	28.2	0.0	7.0	0.1	12.6	-	19.7	-
Lights	0	91	804	0	-	895	1	0	694	180	-	875	0	149	394	414	-	957	0	232	2	431	-	665	3392
% Lights	-	100.0	98.4	-	-	98.6	100.0	-	98.9	96.8	-	98.4	-	100.0	97.8	98.3	-	98.4	-	95.9	100.0	99.3	-	98.1	98.4
Other Vehicles	0	0	13	0	-	13	0	0	8	6	-	14	0	0	9	7	-	16	0	10	0	3	-	13	56
% Other Vehicles	-	0.0	1.6	-	-	1.4	0.0	-	1.1	3.2	-	1.6	-	0.0	2.2	1.7	-	1.6	-	4.1	0.0	0.7	-	1.9	1.6
Pedestrians	-	-	-	-	117	-	-	-	-	-	342	-	-	-	-	-	80	-	-	-	-	-	124	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Data Plot

### Turning Movement Peak Hour Data (1:00 PM)

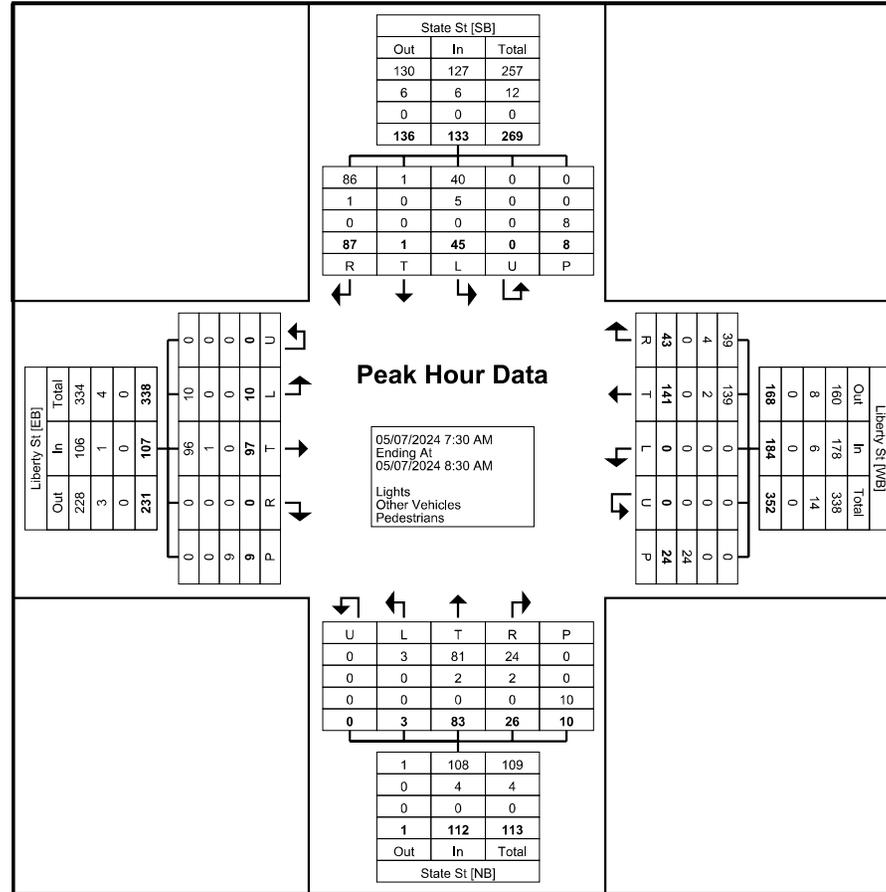
Start Time	Liberty St Eastbound						Liberty St Westbound						State St Northbound						State St Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
1:00 PM	0	5	21	0	1	26	0	0	19	6	10	25	0	3	18	13	0	34	0	4	0	13	1	17	102
1:15 PM	0	4	20	0	0	24	0	0	15	2	22	17	0	7	9	16	2	32	0	5	0	12	11	17	90
1:30 PM	0	3	24	0	2	27	0	0	24	8	14	32	0	5	6	14	2	25	0	4	0	11	6	15	99
1:45 PM	0	3	26	0	2	29	0	0	18	5	18	23	0	5	11	12	1	28	0	8	0	18	1	26	106
Total	0	15	91	0	5	106	0	0	76	21	64	97	0	20	44	55	5	119	0	21	0	54	19	75	397
Approach %	0.0	14.2	85.8	0.0	-	-	0.0	0.0	78.4	21.6	-	-	0.0	16.8	37.0	46.2	-	-	0.0	28.0	0.0	72.0	-	-	-
Total %	0.0	3.8	22.9	0.0	-	26.7	0.0	0.0	19.1	5.3	-	24.4	0.0	5.0	11.1	13.9	-	30.0	0.0	5.3	0.0	13.6	-	18.9	-
PHF	0.000	0.750	0.875	0.000	-	0.914	0.000	0.000	0.792	0.656	-	0.758	0.000	0.714	0.611	0.859	-	0.875	0.000	0.656	0.000	0.750	-	0.721	0.936
Lights	0	15	90	0	-	105	0	0	76	21	-	97	0	20	43	54	-	117	0	20	0	54	-	74	393
% Lights	-	100.0	98.9	-	-	99.1	-	-	100.0	100.0	-	100.0	-	100.0	97.7	98.2	-	98.3	-	95.2	-	100.0	-	98.7	99.0
Other Vehicles	0	0	1	0	-	1	0	0	0	0	-	0	0	0	1	1	-	2	0	1	0	0	-	1	4
% Other Vehicles	-	0.0	1.1	-	-	0.9	-	-	0.0	0.0	-	0.0	-	0.0	2.3	1.8	-	1.7	-	4.8	-	0.0	-	1.3	1.0
Pedestrians	-	-	-	-	5	-	-	-	-	-	64	-	-	-	-	-	5	-	-	-	-	-	19	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (1:00 PM)

### Turning Movement Peak Hour Data (7:30 AM)

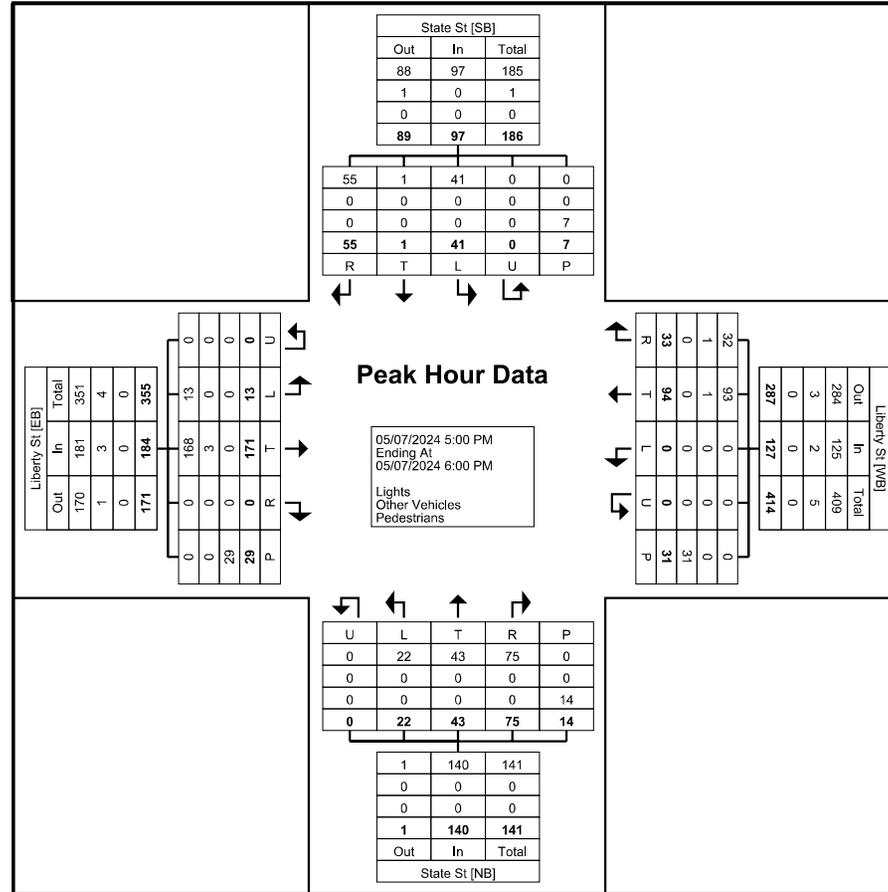
Start Time	Liberty St Eastbound						Liberty St Westbound						State St Northbound						State St Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30 AM	0	2	23	0	4	25	0	0	34	18	9	52	0	0	28	7	1	35	0	10	0	26	1	36	148
7:45 AM	0	3	26	0	0	29	0	0	50	10	5	60	0	1	30	9	4	40	0	16	1	29	3	46	175
8:00 AM	0	4	29	0	0	33	0	0	29	9	4	38	0	1	14	6	1	21	0	10	0	18	2	28	120
8:15 AM	0	1	19	0	5	20	0	0	28	6	6	34	0	1	11	4	4	16	0	9	0	14	2	23	93
Total	0	10	97	0	9	107	0	0	141	43	24	184	0	3	83	26	10	112	0	45	1	87	8	133	536
Approach %	0.0	9.3	90.7	0.0	-	-	0.0	0.0	76.6	23.4	-	-	0.0	2.7	74.1	23.2	-	-	0.0	33.8	0.8	65.4	-	-	-
Total %	0.0	1.9	18.1	0.0	-	20.0	0.0	0.0	26.3	8.0	-	34.3	0.0	0.6	15.5	4.9	-	20.9	0.0	8.4	0.2	16.2	-	24.8	-
PHF	0.000	0.625	0.836	0.000	-	0.811	0.000	0.000	0.705	0.597	-	0.767	0.000	0.750	0.692	0.722	-	0.700	0.000	0.703	0.250	0.750	-	0.723	0.766
Lights	0	10	96	0	-	106	0	0	139	39	-	178	0	3	81	24	-	108	0	40	1	86	-	127	519
% Lights	-	100.0	99.0	-	-	99.1	-	-	98.6	90.7	-	96.7	-	100.0	97.6	92.3	-	96.4	-	88.9	100.0	98.9	-	95.5	96.8
Other Vehicles	0	0	1	0	-	1	0	0	2	4	-	6	0	0	2	2	-	4	0	5	0	1	-	6	17
% Other Vehicles	-	0.0	1.0	-	-	0.9	-	-	1.4	9.3	-	3.3	-	0.0	2.4	7.7	-	3.6	-	11.1	0.0	1.1	-	4.5	3.2
Pedestrians	-	-	-	-	9	-	-	-	-	-	24	-	-	-	-	-	10	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (7:30 AM)

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Liberty St Eastbound						Liberty St Westbound						State St Northbound						State St Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
5:00 PM	0	4	33	0	25	37	0	0	16	12	15	28	0	4	13	18	6	35	0	8	1	10	4	19	119
5:15 PM	0	3	48	0	3	51	0	0	29	7	4	36	0	3	3	17	3	23	0	9	0	13	1	22	132
5:30 PM	0	4	46	0	1	50	0	0	26	9	6	35	0	9	12	20	1	41	0	8	0	15	1	23	149
5:45 PM	0	2	44	0	0	46	0	0	23	5	6	28	0	6	15	20	4	41	0	16	0	17	1	33	148
Total	0	13	171	0	29	184	0	0	94	33	31	127	0	22	43	75	14	140	0	41	1	55	7	97	548
Approach %	0.0	7.1	92.9	0.0	-	-	0.0	0.0	74.0	26.0	-	-	0.0	15.7	30.7	53.6	-	-	0.0	42.3	1.0	56.7	-	-	-
Total %	0.0	2.4	31.2	0.0	-	33.6	0.0	0.0	17.2	6.0	-	23.2	0.0	4.0	7.8	13.7	-	25.5	0.0	7.5	0.2	10.0	-	17.7	-
PHF	0.000	0.813	0.891	0.000	-	0.902	0.000	0.000	0.810	0.688	-	0.882	0.000	0.611	0.717	0.938	-	0.854	0.000	0.641	0.250	0.809	-	0.735	0.919
Lights	0	13	168	0	-	181	0	0	93	32	-	125	0	22	43	75	-	140	0	41	1	55	-	97	543
% Lights	-	100.0	98.2	-	-	98.4	-	-	98.9	97.0	-	98.4	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	99.1
Other Vehicles	0	0	3	0	-	3	0	0	1	1	-	2	0	0	0	0	-	0	0	0	0	0	-	0	5
% Other Vehicles	-	0.0	1.8	-	-	1.6	-	-	1.1	3.0	-	1.6	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.9
Pedestrians	-	-	-	-	29	-	-	-	-	-	31	-	-	-	-	-	14	-	-	-	-	-	7	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (5:00 PM)



# Land Use: 221

## Multifamily Housing (Mid-Rise)

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### Description

Mid-rise multifamily housing includes apartments and condominiums located in a building that has between four and 10 floors of living space. Access to individual dwelling units is through an outside building entrance, a lobby, elevator, and a set of hallways.

Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (mid-rise) (Land Use 226), and mid-rise residential with ground-floor commercial (Land Use 231) are related land uses.

### Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

### Additional Data

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.5 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

***It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).***

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Alberta (CAN), California, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, Montana, New Jersey, New York, Ontario (CAN), Oregon, Utah, and Virginia.

### Source Numbers

168, 188, 204, 305, 306, 321, 818, 857, 862, 866, 901, 904, 910, 949, 951, 959, 963, 964, 966, 967, 969, 970, 1004, 1014, 1022, 1023, 1025, 1031, 1032, 1035, 1047, 1056, 1057, 1058, 1071, 1076

# Multifamily Housing (Mid-Rise) Close to Rail Transit (221)

## Vehicle Trip Ends vs: Dwelling Units

On a: **Weekday,**

**Peak Hour of Adjacent Street Traffic,**

**One Hour Between 7 and 9 a.m.**

**Setting/Location: General Urban/Suburban**

Number of Studies: 7

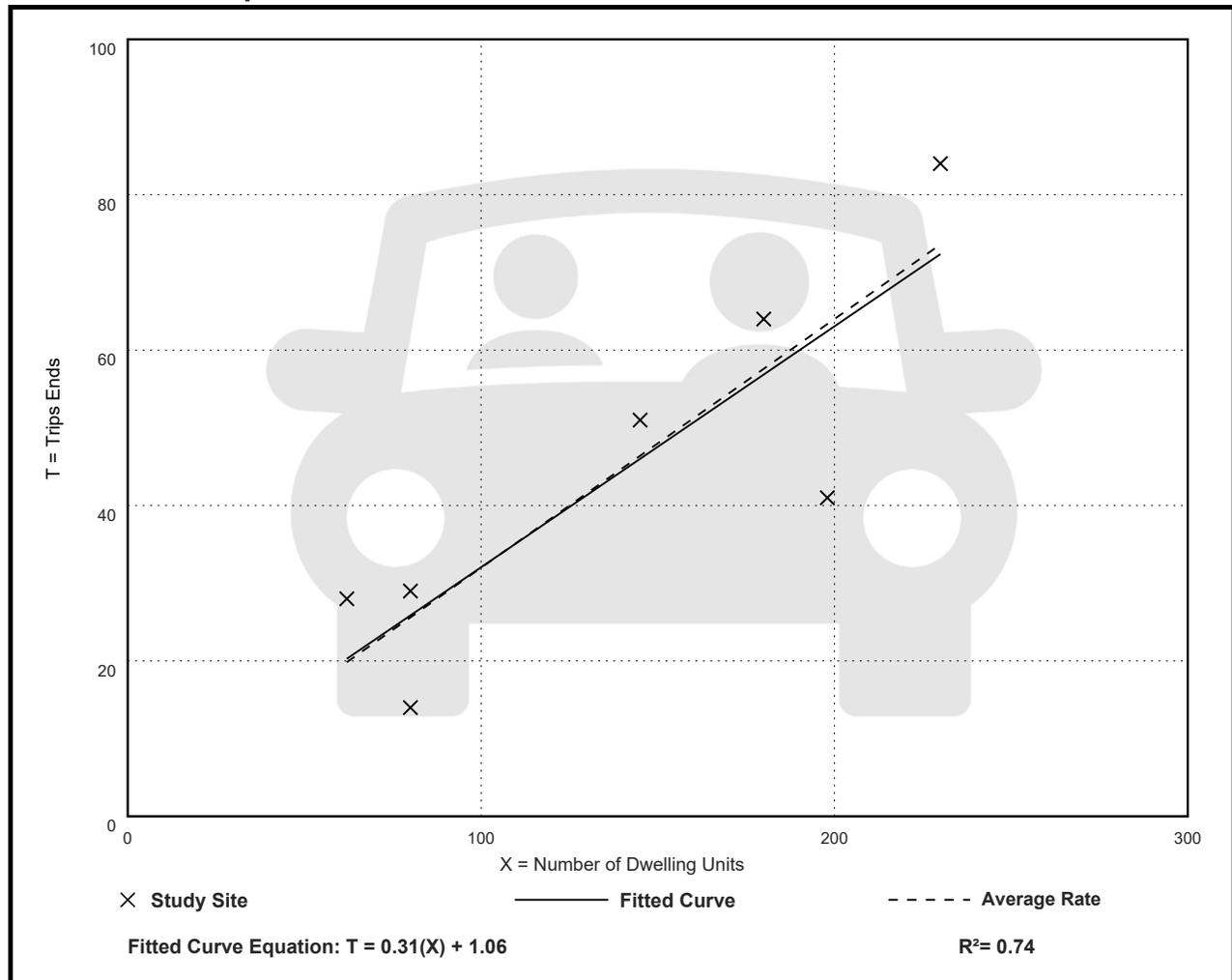
Avg. Num. of Dwelling Units: 139

Directional Distribution: 56% entering, 44% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.32	0.18 - 0.45	0.09

## Data Plot and Equation



# Multifamily Housing (Mid-Rise) Close to Rail Transit (221)

## Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 7

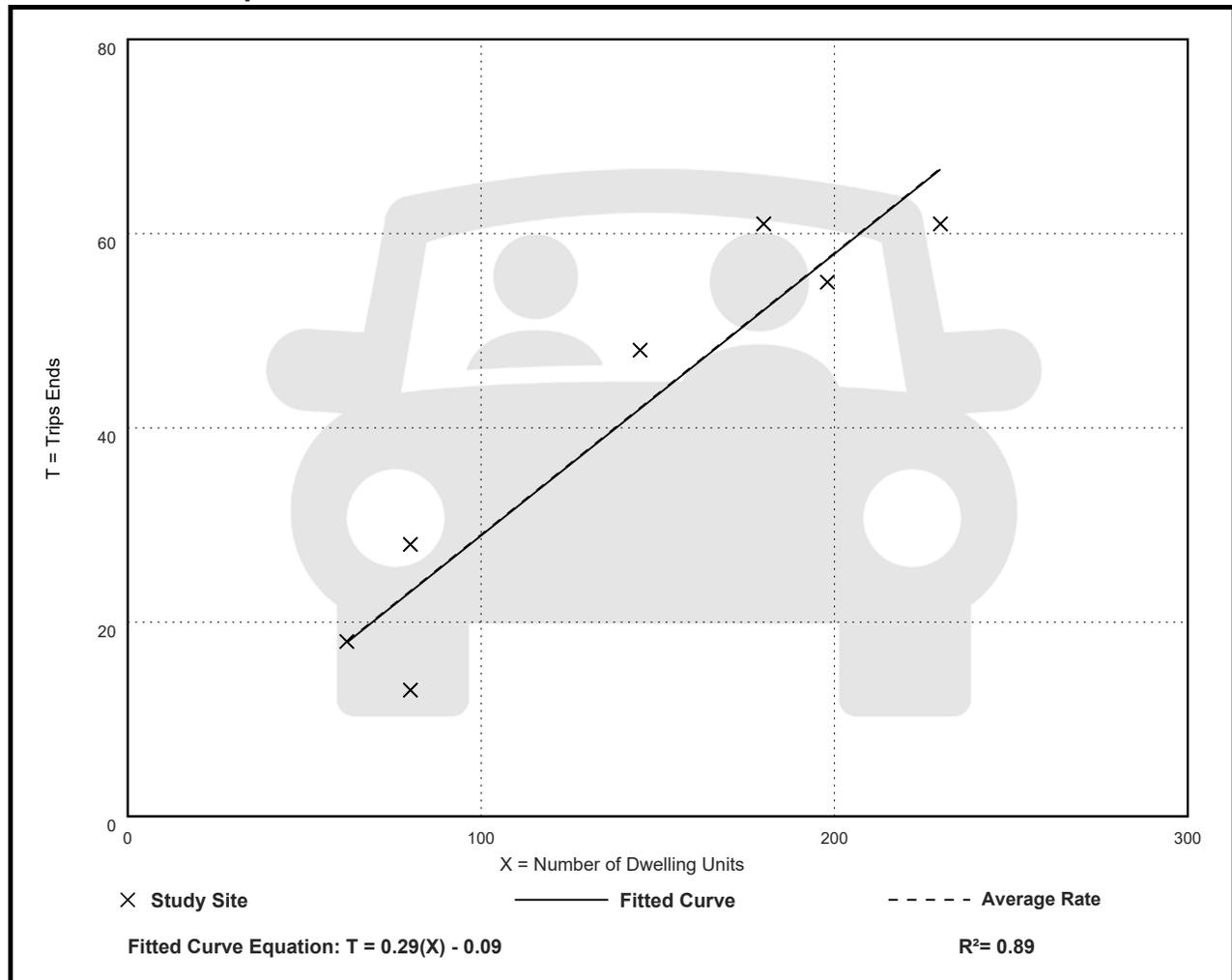
Avg. Num. of Dwelling Units: 139

Directional Distribution: 43% entering, 57% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.29	0.16 - 0.35	0.05

## Data Plot and Equation



# Land Use: 560 Church

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## **Description**

A church is a building in which public worship services are held. A church houses an assembly hall or sanctuary. It may also house meeting rooms, classrooms, and, occasionally, dining, catering, or event facilities. Synagogue (Land Use 561) and mosque (Land Use 562) are related uses.

## **Additional Data**

Worship services are typically held on Sundays. Some of the surveyed churches offered day care or extended care programs during the week.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Colorado, Florida, New Hampshire, New Jersey, New York, Oregon, Pennsylvania, Texas, and Virginia.

## **Source Numbers**

169, 170, 423, 428, 436, 554, 571, 583, 629, 631, 704, 903, 904, 957, 971, 981, 1080

# Church (560)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 7

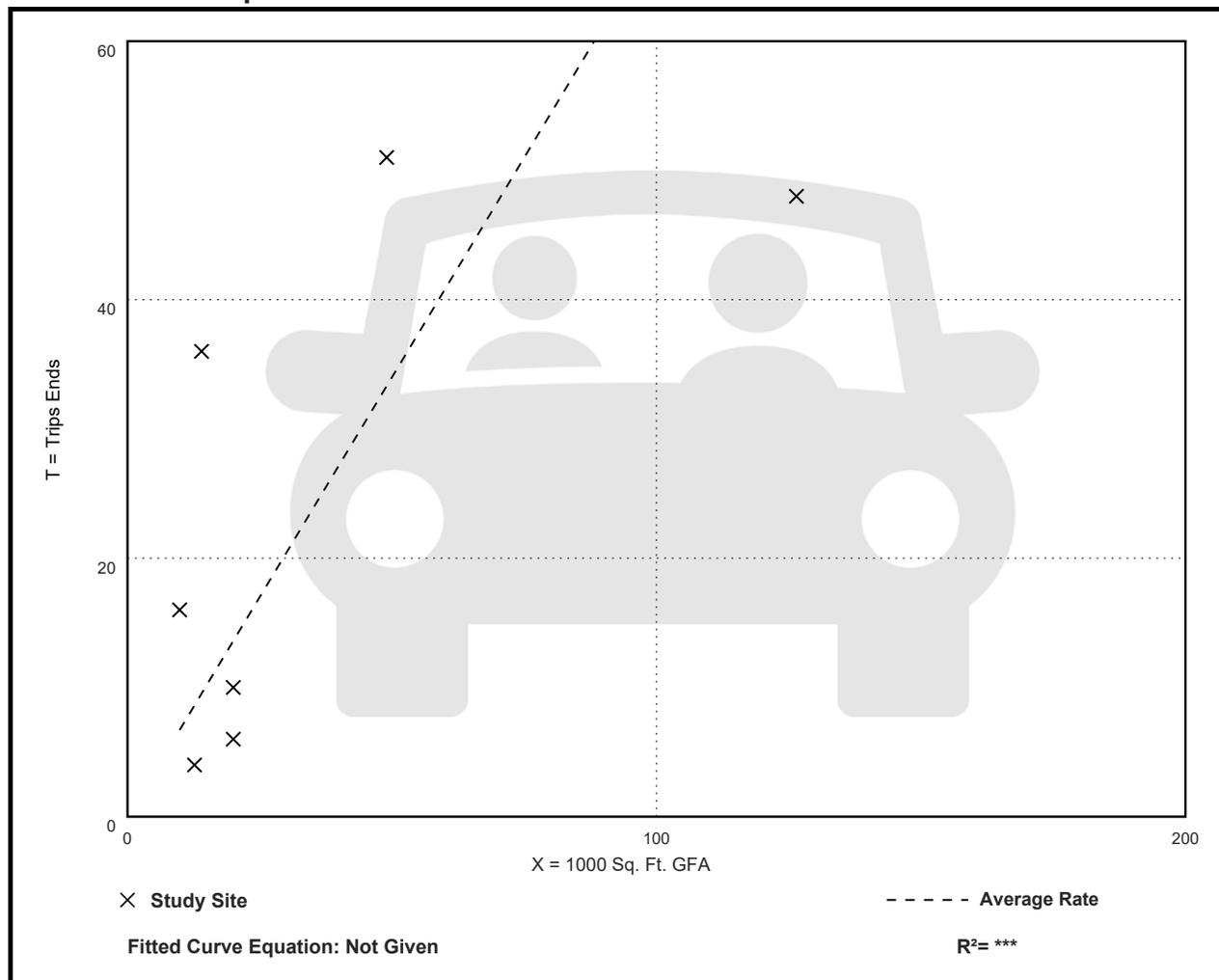
Avg. 1000 Sq. Ft. GFA: 36

Directional Distribution: 55% entering, 45% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.68	0.30 - 2.57	0.62

## Data Plot and Equation



# Church (560)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**

**On a: Weekday,**

**PM Peak Hour of Generator**

**Setting/Location: General Urban/Suburban**

Number of Studies: 7

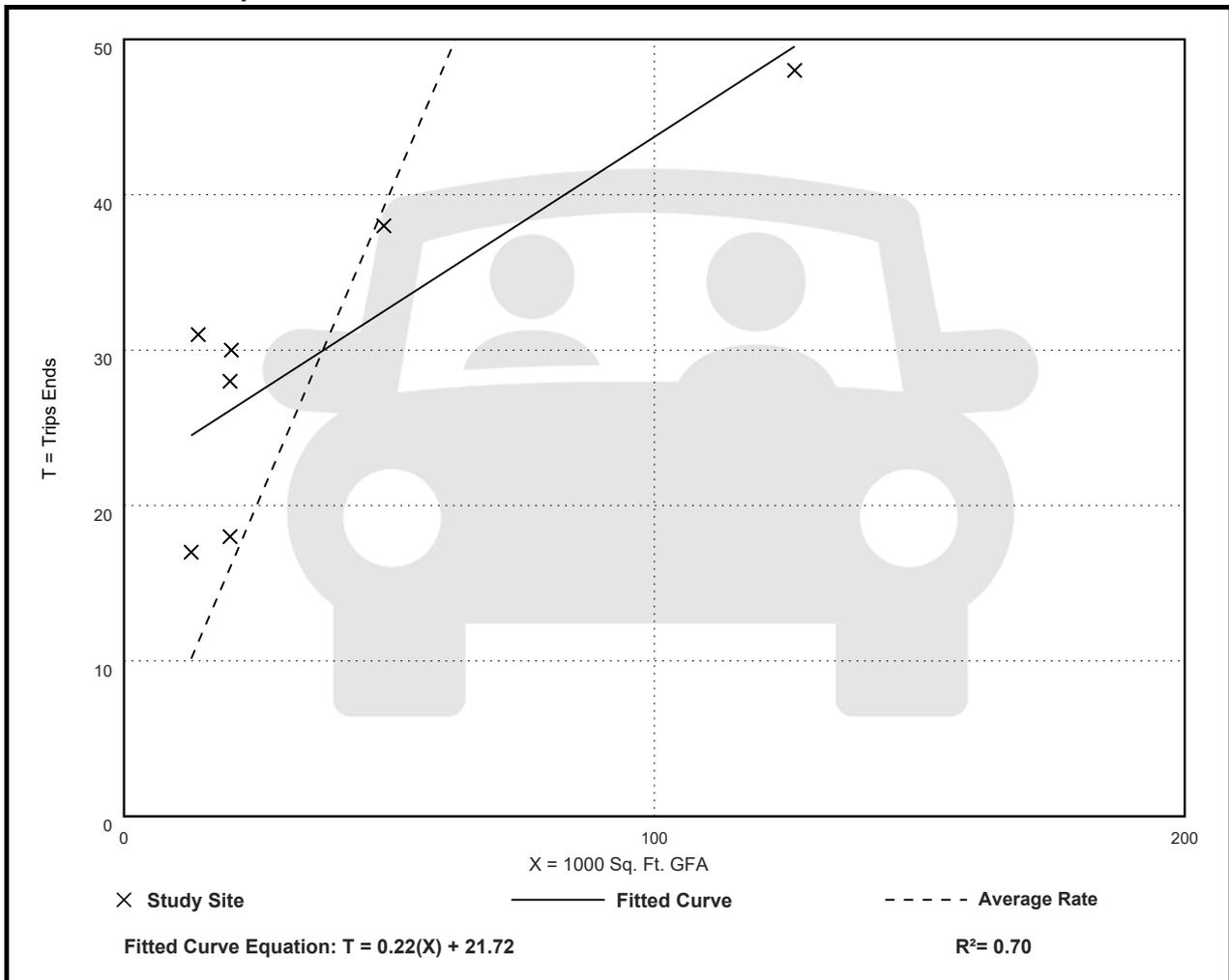
Avg. 1000 Sq. Ft. GFA: 37

Directional Distribution: 59% entering, 41% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.80	0.38 - 2.21	0.56

## Data Plot and Equation



# Church (560)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

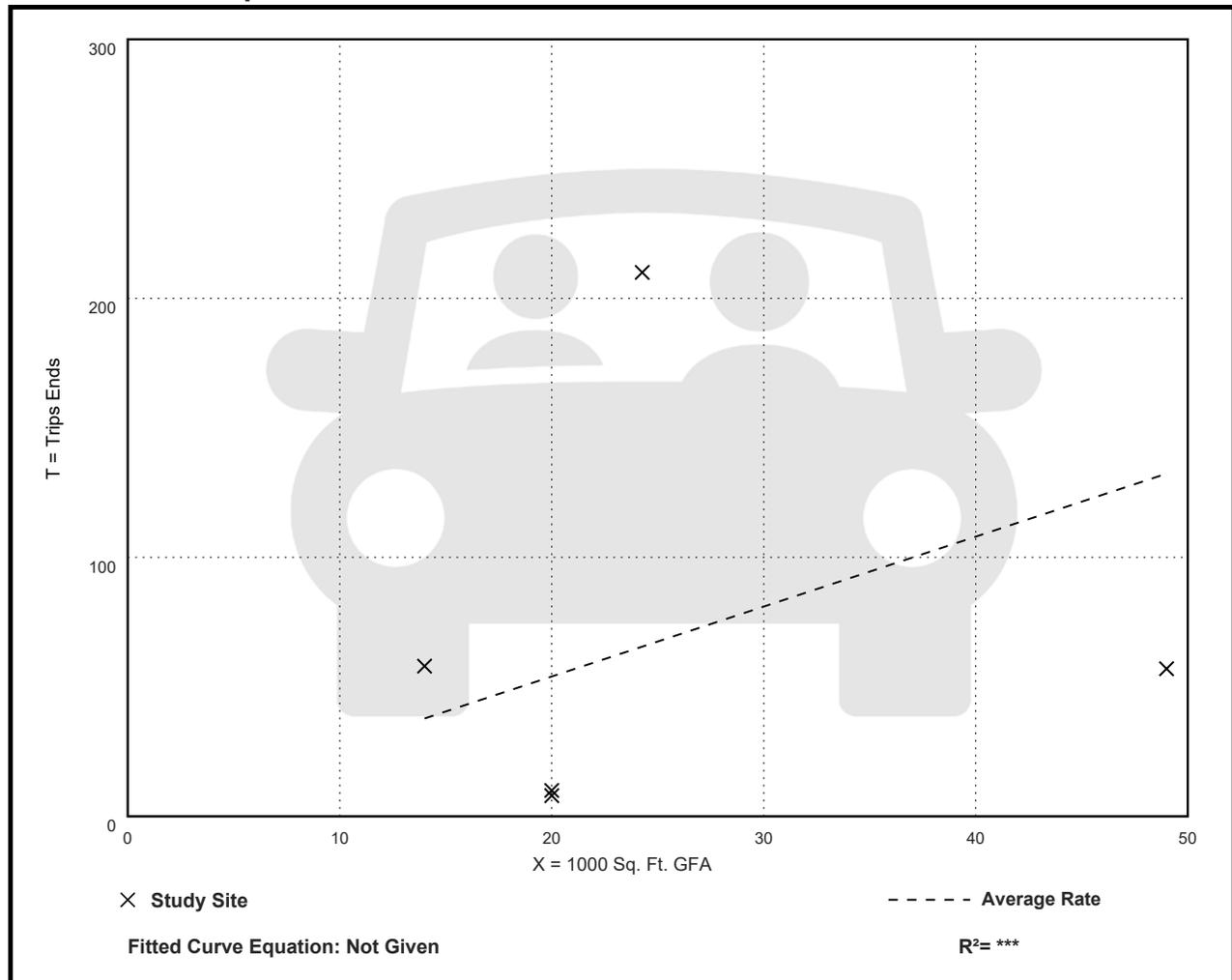
Avg. 1000 Sq. Ft. GFA: 25

Directional Distribution: 58% entering, 42% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.70	0.40 - 8.65	3.44

## Data Plot and Equation



## D | Level of Service Descriptions

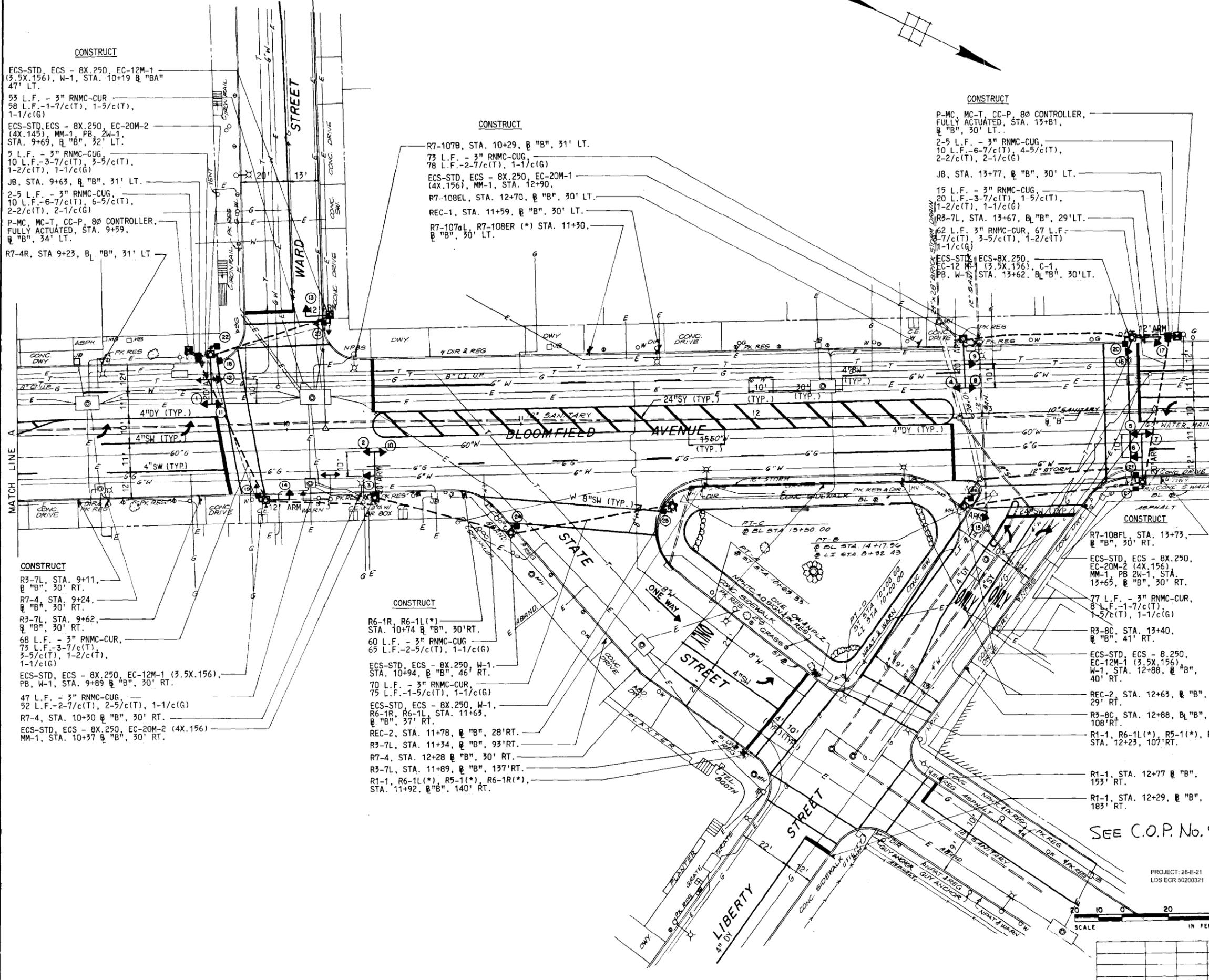
**Table 3**  
**Level of Service and Average Delay**  
**For Unsignalized Intersections**

Level of Service	Average Delay (seconds/vehicle)
A	Up to 10 seconds
B	More than 10 seconds; up to 15 seconds
C	More than 15 seconds; up to 25 seconds
D	More than 25 seconds; up to 35 seconds
E	More than 35 seconds; up to 50 seconds
F	More than 50 seconds

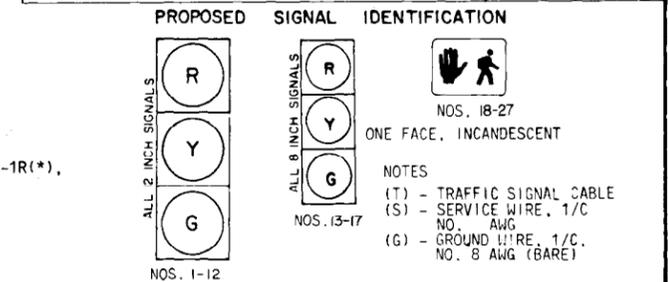
**Table 4**  
**Level of Service and Average Delay**  
**For Signalized Intersections**

Level of Service	Average Delay (seconds/vehicle)	Description
A	Up to 10 seconds	Very short delay, good progression; most vehicles do not stop at intersection.
B	More than 10 seconds Up to 20 seconds	Generally good signal progression and/or short cycle length; more vehicles stop at intersection than Level of Service A.
C	More than 20 seconds Up to 35 seconds	Fair progression and/or longer cycle length; significant number of vehicles stop at intersection.
D	More than 35 seconds Up to 55 seconds	Congestion becomes noticeable; individual cycle failures; longer delays from unfavorable progression, long cycle length; or high volume/capacity ratios; most vehicles stop at intersection.
E	More than 55 seconds Up to 80 seconds	Usually considered limit of acceptable delay indicative of poor progression long cycle length, or high volume/capacity ratio; frequent individual cycle failures.
F	More than 80 seconds	Could be considered excessive delay in some areas, frequently an indication of over-saturation (i.e., arrival flows exceed capacity), or very long cycle lengths with minimal side street green time. Capacity is not necessarily exceeded under this Level of Service.

**E | Essex County Traffic Signal Plan & Timing Directive**



TO BE CONSTRUCTED	CONTRACT QUANTITIES	AS-BUILT QUANTITIES
FOUNDATIONS, TYPE R-MC	2 UNITS	
FOUNDATIONS, TYPE ECS-STD	10 UNITS	
TRAFFIC SIGNAL STANDARDS, TYPE ECS - PY 2'	10 UNITS	
TRAFFIC SIGNAL ASSEMBLIES, TYPE EC-12M-1(3.5X.156)	4 UNITS	
TRAFFIC SIGNAL ASSEMBLIES, TYPE EC-20M-2(4X.156)	4 UNITS	
TRAFFIC SIGNAL ASSEMBLIES, TYPE MM-1	4 UNITS	
TRAFFIC SIGNAL ASSEMBLIES, TYPE C-1	1 UNIT	
18"X36" JUNCTION BOX, TYPE JB	2 UNITS	
PEDESTRIAN SIGNAL ASSEMBLIES, TYPE W-1	10 UNITS	
PUSH BUTTON ASSEMBLIES	4 UNITS	
CONTROLLER, 8 PHASE FULLY ACTUATED	2 UNITS	
CONTROLLER CABINETS, TYPE P	2 UNITS	
METER CABINETS, TYPE T	2 UNITS	
2" RIGID METALLIC CONDUIT, TYPE CUG		
2" RIGID METALLIC CONDUIT, TYPE CUR		
3" RIGID NON-METALLIC CONDUIT SCHED. 40, TYPE CUG	220 L.F.	
3" RIGID NON-MET. CONDUIT, SCHEDULE 40, TYPE CUR	330 L.F.	
TRAFFIC SIGNAL CABLE, 7 CONDUCTOR	956 L.F.	
TRAFFIC SIGNAL CABLE, 5 CONDUCTOR	945 L.F.	
TRAFFIC SIGNAL CABLE, 2 CONDUCTOR	210 L.F.	
SERVICE WIRE, NO. 6 AWG, 1 CONDUCTOR		
GROUND WIRE, NO. 8 AWG, 1 CONDUCTOR (BARE)	546 L.F.	
12"X18" SIGNS	6 UNITS	
12"X20" SIGNS	1 UNIT	
12"X30" SIGNS	1 UNIT	
30"X30" SIGNS	11 UNITS	
36"X12" SIGNS	2 UNITS	
12"X18" ACCESSORY PANELS	1 UNIT	
30"X30" ACCESSORY PANELS	2 UNITS	
36"X12" ACCESSORY PANELS	6 UNITS	
18"X30" ESSEX COUNTY SIGN	3 UNITS	
TRAFFIC STRIPES	6547 L.F.	
TRAFFIC PAINT	150 S.F.	



THE NEW JERSEY DEPARTMENT OF TRANSPORTATION  
 COUNTY OF ESSEX  
 IMPROVEMENTS TO BLOOMFIELD AVE.,

TRAFFIC PLAN  
 BLOOMFIELD AVENUE WITH WARD STREET,  
 STATE STREET AND LIBERTY STREET

EDWARDS AND KELCEY, INC.

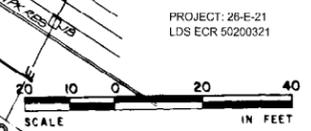
70 80 GRAMME AVENUE, LIVINGSTON, N.J.

DRAWN BY: FDD/AAK  
 CHECKED BY: JMG  
 DATE: 6/87  
 SCALE: 1"=20'

Wesley LaBaugh, P.E. \*8667

113  
193

SEE C.O.P. No. 9



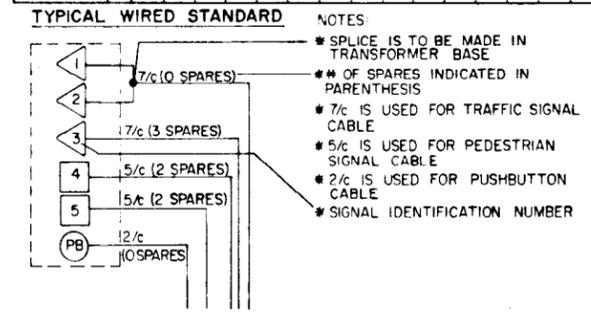
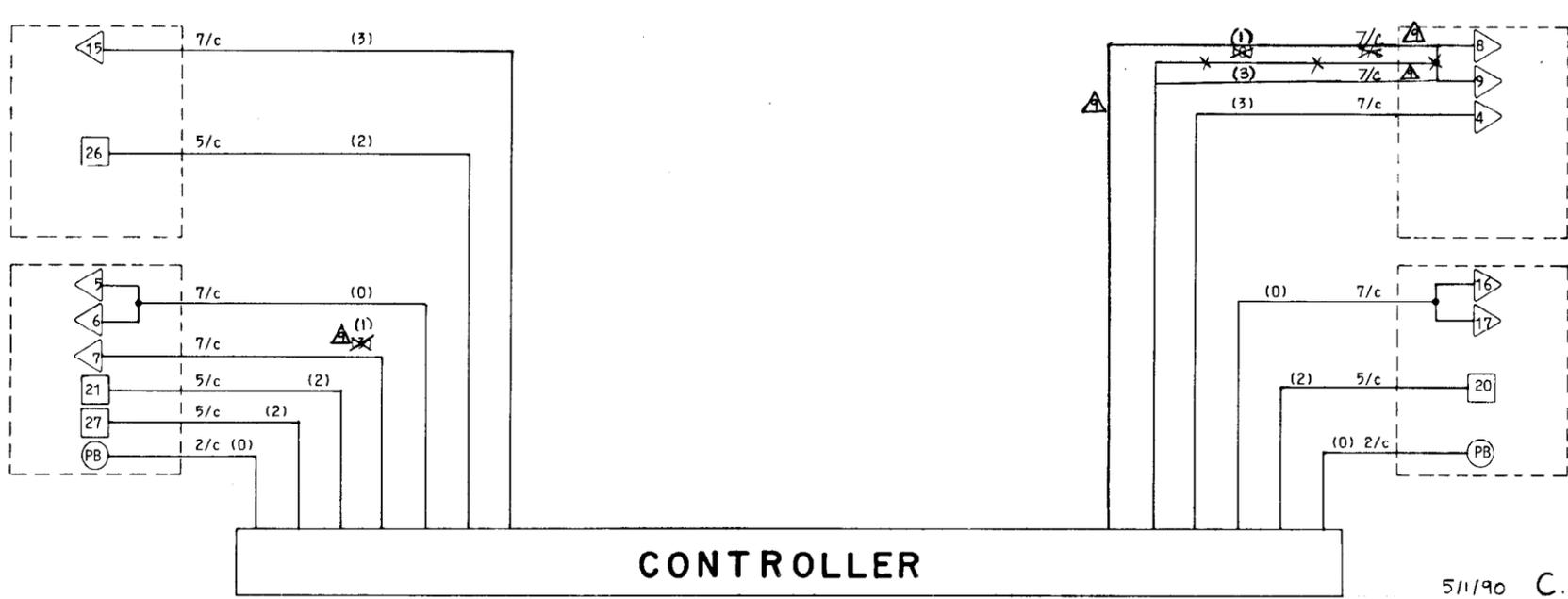
REVISION	BY	CKD.	DATE

EDWARDS AND KELCEY, INC. - ENGINEERS AND CONSULTANTS, LIVINGSTON, N.J.

EDWARDS AND KELCEY, INC. — ENGINEERS AND CONSULTANTS, LIVINGSTON, N.J.

LIBERTY STREET

TRAFFIC SIGNAL OPERATIONS		FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO.	SHEET	TOTAL SHEETS		
		01	N.J.	M-0005 (76)	158	193		
PROPOSED AM PEAK SIGNAL TIMING (IN SECONDS) (BACKGROUND CYCLE - 120 SECS.) (OFFSET - 47 SECS.)								
PHASE	MINIMUM INITIAL TIME	PASS GREEN	MAX. GREEN 1	MAX. GREEN 2	WALK CLEAR	RED CLEAR	MODE	
1	-	-	80	-	74	6	3	NON-ACT.
2	-	-	16	-	8	3	3	NON-ACT.
3	-	-	8	-	-	3	-	NON-ACT.
PROPOSED MID-DAY SIGNAL TIMING (IN SECONDS) (BACKGROUND CYCLE - 90 SECS.) (OFFSET - 47 SECS.)								
PHASE	MINIMUM INITIAL TIME	PASS GREEN	MAX. GREEN 1	MAX. GREEN 2	WALK CLEAR	RED CLEAR	MODE	
1	-	-	52	-	46	6	3	NON-ACT.
2	-	-	16	-	8	3	3	NON-ACT.
3	-	-	6	-	-	3	-	NON-ACT.
PROPOSED PM-PEAK SIGNAL TIMING (IN SECONDS) (BACKGROUND CYCLE - 120 SECS.) (OFFSET - 47 SECS.)								
PHASE	MINIMUM INITIAL TIME	PASS GREEN	MAX. GREEN 1	MAX. GREEN 2	WALK CLEAR	RED CLEAR	MODE	
1	-	-	82	-	76	6	3	NON-ACT.
2	-	-	16	-	8	3	3	NON-ACT.
3	-	-	6	-	-	3	-	NON-ACT.
PROPOSED OFF-PEAK SIGNAL TIMING (IN SECONDS) (BACKGROUND CYCLE - 90 SECS.) (OFFSET - 47 SECS.)								
PHASE	MINIMUM INITIAL TIME	PASS GREEN	MAX. GREEN 1	MAX. GREEN 2	WALK CLEAR	RED CLEAR	MODE	
1	-	-	52	-	46	6	3	NON-ACT.
2	-	-	16	-	8	3	3	NON-ACT.
3	-	-	6	-	-	3	-	NON-ACT.
FLASHING		Y	Y	DARK	R	DARK		



- NOTES**
- \* SPLICE IS TO BE MADE IN TRANSFORMER BASE
  - \*\* OF SPARES INDICATED IN PARENTHESIS
  - \* 7/c IS USED FOR TRAFFIC SIGNAL CABLE
  - \* 5/c IS USED FOR PEDESTRIAN SIGNAL CABLE
  - \* 2/c IS USED FOR PUSHBUTTON CABLE
  - \* SIGNAL IDENTIFICATION NUMBER

- COLOR LEGEND**
- ① RED
  - ② AMBER
  - ③ GREEN
  - ④ RED W/WHITE TRACER
  - ⑤ AMBER W/WHITE TRACER
  - ⑥ GREEN W/WHITE TRACER
  - ⑦ RED W/BLACK TRACER
- LEGEND**
- ◁ VEHICLE TRAFFIC SIGNAL
  - PEDESTRIAN SIGNAL
  - ⊙ PB PUSHBUTTON (PB)
  - WIRE SPLICE
  - TRAFFIC SIGNAL FOUNDATION

**HOURS OF OPERATION**

AM. MON-FRI. 6:00-9:30  
 PM. MON-FRI. 3:00-6:00  
 MID. MON-FRI. 9:30-3:00  
 OFF-PEAK ALL OTHER TIMES

\*NOTE: OFFSETS ARE REFERENCED FROM THE BEGINNING OF GREEN TO BLOOMFIELD AVENUE AT THE INTERSECTION OF BLOOMFIELD AVENUE WITH BLOOMFIELD PLACE AND BROADWAY.

THE NEW JERSEY DEPARTMENT OF TRANSPORTATION  
 COUNTY OF ESSEX  
 IMPROVEMENTS TO BLOOMFIELD AVE.  
 WIRING, PHASING, SEQUENCE AND TIMING PLAN  
 FOR THE INTERSECTION OF  
 BLOOMFIELD AVENUE WITH WARD STREET, STATE STREET AND LIBERTY STREET

EDWARDS AND KELCEY, INC.  
 70 30 ORANGE AVENUE, LIVINGSTON, N.J.

PROJECT: 26-E-86  
 LDS ECR 50200323

5/11/90 C.O.P. NO. 9 A

REVISION BY CKD DATE

Wesley LaBaugh, P.E. \*8667

158  
193

26-E-86



BOHL 00293 Proposed Residential Development - Bloomfield NJ  
 4: Bloomfield Avenue (CR 506S) & Liberty Street

No-Build  
 AM

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	136	111	757	0	112	715
Future Volume (vph)	136	111	757	0	112	715
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	35		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Fr <sub>t</sub>		0.850				
Fl <sub>t</sub> Protected	0.950					0.993
Satd. Flow (prot)	1985	1776	3854	0	0	3871
Fl <sub>t</sub> Permitted	0.950					0.677
Satd. Flow (perm)	1985	1776	3854	0	0	2639
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		61				
Link Speed (mph)	25		25			25
Link Distance (ft)	152		189			432
Travel Time (s)	4.1		5.2			11.8
Peak Hour Factor	0.71	0.78	0.96	0.92	0.81	0.89
Heavy Vehicles (%)	1%	1%	3%	0%	2%	3%
Adj. Flow (vph)	192	142	789	0	138	803
Shared Lane Traffic (%)						
Lane Group Flow (vph)	192	142	789	0	0	941
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	16.0	16.0	80.0		8.0	91.0
Minimum Split (s)	22.0	22.0	87.0		11.0	98.0
Total Split (s)	22.0	22.0	87.0		11.0	98.0
Total Split (%)	18.3%	18.3%	72.5%		9.2%	81.7%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	3.0	3.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	6.0	6.0	7.0			7.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Max		None	Max
Act Effct Green (s)	16.0	16.0	91.0			91.0
Actuated g/C Ratio	0.13	0.13	0.76			0.76
v/c Ratio	0.72	0.49	0.27			0.47
Control Delay (s/veh)	66.6	33.7	4.6			6.3
Queue Delay	0.0	0.0	0.0			0.0
Total Delay (s/veh)	66.6	33.7	4.6			6.3
LOS	E	C	A			A
Approach Delay (s/veh)	52.6		4.7			6.4
Approach LOS	D		A			A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	145	58	83			123
Queue Length 95th (ft)	173	99	104			154
Internal Link Dist (ft)	72		109			352
Turn Bay Length (ft)		35				
Base Capacity (vph)	264	289	2922			2001
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.73	0.49	0.27			0.47

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	120
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.73
Intersection Signal Delay (s/veh):	13.2
Intersection LOS:	B
Intersection Capacity Utilization	120.4%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 4: Bloomfield Avenue (CR 506S) & Liberty Street



BOHL 00293 Proposed Residential Development - Bloomfield NJ  
 1: Bloomfield Avenue (CR 506S) & Strip Retail Ingress Driveway/Park Street

No-Build  
 AM

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Vol, veh/h	0	0	0	14	14	107	33	848	35	16	715	57
Future Vol, veh/h	0	0	0	14	14	107	33	848	35	16	715	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	92	92	92	65	81	76	89	91	77	65	84	92
Heavy Vehicles, %	0	0	0	0	0	0	0	4	6	0	3	2
Mvmt Flow	0	0	0	22	17	141	37	932	45	25	851	62

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1504	1991	489
Stage 1	1029	1029	-
Stage 2	475	962	-
Critical Hdwy	7	6.7	7
Critical Hdwy Stg 1	6	5.7	-
Critical Hdwy Stg 2	6	5.7	-
Follow-up Hdwy	3.5	4	3.3
Pot Cap-1 Maneuver	105	55	523
Stage 1	293	296	-
Stage 2	582	319	-
Platoon blocked, %			
Mov Cap-1 Maneuver	94	0	523
Mov Cap-2 Maneuver	94	0	-
Stage 1	273	0	-
Stage 2	555	0	-

Approach	WB	NB	SB
HCM Control Delay, s/v	28.93	0.94	0.68
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBRWBLn1	SBL	SBT	SBR
Capacity (veh/h)	124	-	-	325	86	-
HCM Lane V/C Ratio	0.049	-	-	0.553	0.034	-
HCM Control Delay (s/veh)	10	0.6	-	28.9	10.2	0.4
HCM Lane LOS	B	A	-	D	B	A
HCM 95th %tile Q(veh)	0.2	-	-	3.2	0.1	-

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↓			↔
Traffic Vol, veh/h	1	3	857	1	2	786
Future Vol, veh/h	1	3	857	1	2	786
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	92	92	91	92	92	84
Heavy Vehicles, %	2	2	3	2	2	3
Mvmt Flow	1	3	942	1	2	936

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1415	471	0	0	943
Stage 1	942	-	-	-	-
Stage 2	472	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	128	539	-	-	723
Stage 1	339	-	-	-	-
Stage 2	594	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	128	539	-	-	723
Mov Cap-2 Maneuver	128	-	-	-	-
Stage 1	339	-	-	-	-
Stage 2	591	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	17.22	0	0.06
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	299	8
HCM Lane V/C Ratio	-	-	0.015	0.003
HCM Control Delay (s/veh)	-	-	17.2	10
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			↑↑		↑↑
Traffic Vol, veh/h	37	111	57	821	767	20
Future Vol, veh/h	37	111	57	821	767	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-2	-
Peak Hour Factor	69	89	76	89	87	65
Heavy Vehicles, %	0	3	0	4	3	0
Mvmt Flow	54	125	75	922	882	31

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1508	456	912	0	0
Stage 1	897	-	-	-	-
Stage 2	611	-	-	-	-
Critical Hdwy	6.8	6.96	4.1	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.33	2.2	-	-
Pot Cap-1 Maneuver	114	549	755	-	-
Stage 1	363	-	-	-	-
Stage 2	510	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	98	549	755	-	-
Mov Cap-2 Maneuver	98	-	-	-	-
Stage 1	315	-	-	-	-
Stage 2	510	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v59.06		1.87	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	271	-	231	-	-
HCM Lane V/C Ratio	0.099	-	0.772	-	-
HCM Control Delay (s/veh)	10.3	1.2	59.1	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.3	-	5.5	-	-

Intersection												
Int Delay, s/veh	11											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	30	6	44	117	83	10	113	16	37	92	22
Future Vol, veh/h	24	30	6	44	117	83	10	113	16	37	92	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	-1	-	-	1	-	-	-1	-
Peak Hour Factor	82	66	75	65	82	61	65	68	75	65	65	65
Heavy Vehicles, %	0	3	17	2	1	3	10	6	7	0	5	0
Mvmt Flow	29	45	8	68	143	136	15	166	21	57	142	34

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	541	491	158	486	497	177	175	0	0	188	0	0
Stage 1	272	272	-	208	208	-	-	-	-	-	-	-
Stage 2	268	218	-	278	289	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.33	6.27	6.92	6.31	6.13	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	5.9	5.33	-	5.92	5.31	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.33	-	5.92	5.31	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.027	3.453	3.518	4.009	3.327	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	469	490	853	505	489	868	1354	-	-	1399	-	-
Stage 1	749	693	-	804	740	-	-	-	-	-	-	-
Stage 2	753	729	-	740	686	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	262	462	853	428	461	868	1354	-	-	1399	-	-
Mov Cap-2 Maneuver	262	462	-	428	461	-	-	-	-	-	-	-
Stage 1	715	662	-	793	731	-	-	-	-	-	-	-
Stage 2	504	720	-	652	655	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v17.21		21.66	0.58	1.88
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	133	-	-	377	555	425	-	-
HCM Lane V/C Ratio	0.011	-	-	0.219	0.624	0.041	-	-
HCM Control Delay (s/veh)	7.7	0	-	17.2	21.7	7.7	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	4.3	0.1	-	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	1	2	0	138	138	4
Future Vol, veh/h	1	2	0	138	138	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	68	65	92
Heavy Vehicles, %	2	2	2	6	5	2
Mvmt Flow	1	2	0	203	212	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	417	214	217	0	0
Stage 1	214	-	-	-	-
Stage 2	203	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	592	825	1353	-	-
Stage 1	821	-	-	-	-
Stage 2	831	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	592	825	1353	-	-
Mov Cap-2 Maneuver	592	-	-	-	-
Stage 1	821	-	-	-	-
Stage 2	831	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.96	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1353	-	730	-	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s/veh)	0	-	10	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	0	6	136	138	1
Future Vol, veh/h	0	0	6	136	138	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	0	2
Mvmt Flow	0	0	7	148	150	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	311	151	151	0	0
Stage 1	151	-	-	-	-
Stage 2	161	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	681	896	1430	-	-
Stage 1	877	-	-	-	-
Stage 2	868	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	678	896	1430	-	-
Mov Cap-2 Maneuver	678	-	-	-	-
Stage 1	873	-	-	-	-
Stage 2	868	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0	0.32	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	76	-	-	-	-
HCM Lane V/C Ratio	0.005	-	-	-	-
HCM Control Delay (s/veh)	7.5	0	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↔			↕			↕	
Traffic Vol, veh/h	10	102	0	0	147	45	9	87	27	47	0	91
Future Vol, veh/h	10	102	0	0	147	45	9	87	27	47	0	91
Peak Hour Factor	0.63	0.84	0.92	0.92	0.71	0.60	0.75	0.69	0.72	0.70	0.92	0.75
Heavy Vehicles, %	0	1	0	0	1	9	0	2	7	11	0	1
Mvmt Flow	16	121	0	0	207	75	12	126	38	67	0	121
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.7	11.1	9.9	10
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	9%	0%	34%
Vol Thru, %	71%	91%	77%	0%
Vol Right, %	22%	0%	23%	66%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	123	112	192	138
LT Vol	9	10	0	47
Through Vol	87	102	147	0
RT Vol	27	0	45	91
Lane Flow Rate	176	137	282	188
Geometry Grp	1	1	1	1
Degree of Util (X)	0.252	0.202	0.39	0.268
Departure Headway (Hd)	5.167	5.297	4.975	5.124
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	695	678	728	701
Service Time	3.2	3.329	2.975	3.158
HCM Lane V/C Ratio	0.253	0.202	0.387	0.268
HCM Control Delay, s/veh	9.9	9.7	11.1	10
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	1	0.8	1.9	1.1

BOHL 00293 Proposed Residential Development - Bloomfield NJ  
 4: Bloomfield Avenue (CR 506S) & Liberty Street

No-Build  
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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	113	65	541	28	166	859
Future Volume (vph)	113	65	541	28	166	859
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	35		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850	0.992			
Flt Protected	0.950					0.991
Satd. Flow (prot)	1985	1759	3857	0	0	3903
Flt Permitted	0.950					0.703
Satd. Flow (perm)	1985	1759	3857	0	0	2769
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		38	11			
Link Speed (mph)	25		25			25
Link Distance (ft)	152		189			432
Travel Time (s)	4.1		5.2			11.8
Peak Hour Factor	0.67	0.83	0.92	0.84	0.84	0.95
Heavy Vehicles (%)	1%	2%	2%	4%	1%	2%
Adj. Flow (vph)	169	78	588	33	198	904
Shared Lane Traffic (%)						
Lane Group Flow (vph)	169	78	621	0	0	1102
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	16.0	16.0	82.0		6.0	91.0
Minimum Split (s)	22.0	22.0	89.0		9.0	98.0
Total Split (s)	22.0	22.0	89.0		9.0	98.0
Total Split (%)	18.3%	18.3%	74.2%		7.5%	81.7%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	3.0	3.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	6.0	6.0	7.0			7.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Max		None	Max
Act Effct Green (s)	16.0	16.0	91.0			91.0
Actuated g/C Ratio	0.13	0.13	0.76			0.76
v/c Ratio	0.64	0.29	0.21			0.52
Control Delay (s/veh)	61.2	29.5	4.2			6.8
Queue Delay	0.0	0.0	0.0			0.0
Total Delay (s/veh)	61.2	29.5	4.2			6.8
LOS	E	C	A			A
Approach Delay (s/veh)	51.2		4.3			6.9
Approach LOS	D		A			A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	126	28	61			154
Queue Length 95th (ft)	145	67	78			194
Internal Link Dist (ft)	72		109			352
Turn Bay Length (ft)		35				
Base Capacity (vph)	264	267	2927			2099
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.64	0.29	0.21			0.53

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	120
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.64
Intersection Signal Delay (s/veh):	11.6
Intersection LOS:	B
Intersection Capacity Utilization	153.4%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 4: Bloomfield Avenue (CR 506S) & Liberty Street



BOHL 00293 Proposed Residential Development - Bloomfield NJ  
 1: Bloomfield Avenue (CR 506S) & Strip Retail Ingress Driveway/Park Street

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Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕			↕			↕	
Traffic Vol, veh/h	0	0	0	15	18	80	33	647	36	57	884	66
Future Vol, veh/h	0	0	0	15	18	80	33	647	36	57	884	66
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	92	92	92	65	71	80	73	93	73	81	94	79
Heavy Vehicles, %	0	0	0	0	0	0	0	2	3	0	3	0
Mvmt Flow	0	0	0	23	25	100	45	696	49	70	940	84

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1422	1975	373
Stage 1	811	811	-
Stage 2	611	1165	-
Critical Hdwy	7	6.7	7
Critical Hdwy Stg 1	6	5.7	-
Critical Hdwy Stg 2	6	5.7	-
Follow-up Hdwy	3.5	4	3.3
Pot Cap-1 Maneuver	120	56	624
Stage 1	385	378	-
Stage 2	493	254	-
Platoon blocked, %			
Mov Cap-1 Maneuver	97	0	624
Mov Cap-2 Maneuver	97	0	-
Stage 1	353	0	-
Stage 2	437	0	-

Approach	WB	NB	SB
HCM Control Delay, s/v	26.9	1.3	1.42
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBRWBLn1	SBL	SBT	SBR
Capacity (veh/h)	188	-	-	309	208	-
HCM Lane V/C Ratio	0.066	-	-	0.48	0.081	-
HCM Control Delay (s/veh)	10.6	0.8	-	26.9	9.5	0.9
HCM Lane LOS	B	A	-	D	A	A
HCM 95th %tile Q(veh)	0.2	-	-	2.5	0.3	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↓			↕
Traffic Vol, veh/h	1	2	667	2	1	968
Future Vol, veh/h	1	2	667	2	1	968
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	92	92	93	92	92	94
Heavy Vehicles, %	2	2	2	2	2	3
Mvmt Flow	1	2	717	2	1	1030

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1235	360	0	0	719
Stage 1	718	-	-	-	-
Stage 2	517	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	168	637	-	-	878
Stage 1	444	-	-	-	-
Stage 2	563	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	168	637	-	-	878
Mov Cap-2 Maneuver	168	-	-	-	-
Stage 1	444	-	-	-	-
Stage 2	562	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v16.01		0	0.03
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	330	4
HCM Lane V/C Ratio	-	-	0.01	0.001
HCM Control Delay (s/veh)	-	-	16	9.1
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			↑↑		↑↑
Traffic Vol, veh/h	34	136	32	635	937	32
Future Vol, veh/h	34	136	32	635	937	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-2	-
Peak Hour Factor	83	89	86	93	97	71
Heavy Vehicles, %	0	2	0	2	2	0
Mvmt Flow	41	153	37	683	966	45

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1404	506	1011	0	0
Stage 1	989	-	-	-	-
Stage 2	416	-	-	-	-
Critical Hdwy	6.8	6.94	4.1	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.32	2.2	-	-
Pot Cap-1 Maneuver	133	512	694	-	-
Stage 1	326	-	-	-	-
Stage 2	640	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	124	512	694	-	-
Mov Cap-2 Maneuver	124	-	-	-	-
Stage 1	304	-	-	-	-
Stage 2	640	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	34.54	1.14	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	186	-	308	-	-
HCM Lane V/C Ratio	0.054	-	0.629	-	-
HCM Control Delay (s/veh)	10.5	0.6	34.5	-	-
HCM Lane LOS	B	A	D	-	-
HCM 95th %tile Q(veh)	0.2	-	4	-	-

Intersection												
Int Delay, s/veh	6.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	55	17	23	97	22	8	75	19	7	62	23
Future Vol, veh/h	17	55	17	23	97	22	8	75	19	7	62	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	-1	-	-	1	-	-	-1	-
Peak Hour Factor	80	83	65	65	97	66	65	65	65	88	88	92
Heavy Vehicles, %	0	2	0	0	0	0	0	0	0	0	2	0
Mvmt Flow	21	66	26	35	100	33	12	115	29	8	70	25

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	289	268	83	274	266	130	95	0	0	145	0	0
Stage 1	99	99	-	155	155	-	-	-	-	-	-	-
Stage 2	190	169	-	119	111	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.32	6.1	6.9	6.3	6.1	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.9	5.32	-	5.9	5.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.32	-	5.9	5.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	678	648	984	693	653	928	1511	-	-	1450	-	-
Stage 1	917	818	-	860	780	-	-	-	-	-	-	-
Stage 2	825	766	-	896	812	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	545	638	984	596	643	928	1511	-	-	1450	-	-
Mov Cap-2 Maneuver	545	638	-	596	643	-	-	-	-	-	-	-
Stage 1	912	813	-	852	773	-	-	-	-	-	-	-
Stage 2	686	759	-	796	807	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	11.46	12.13	0.58	0.58
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	136	-	-	671	673	132	-	-
HCM Lane V/C Ratio	0.008	-	-	0.169	0.251	0.005	-	-
HCM Control Delay (s/veh)	7.4	0	-	11.5	12.1	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	1	0	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	2	1	98	98	4
Future Vol, veh/h	4	2	1	98	98	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	65	88	92
Heavy Vehicles, %	2	2	2	0	2	2
Mvmt Flow	4	2	1	151	111	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	266	114	116	0	0
Stage 1	114	-	-	-	-
Stage 2	153	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	723	939	1473	-	-
Stage 1	911	-	-	-	-
Stage 2	875	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	722	939	1473	-	-
Mov Cap-2 Maneuver	722	-	-	-	-
Stage 1	911	-	-	-	-
Stage 2	875	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.64	0.05	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	13	-	782	-	-
HCM Lane V/C Ratio	0.001	-	0.008	-	-
HCM Control Delay (s/veh)	7.4	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	2	1	3	90	99	1
Future Vol, veh/h	2	1	3	90	99	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	0	2
Mvmt Flow	2	1	3	98	108	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	213	108	109	0	0
Stage 1	108	-	-	-	-
Stage 2	104	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	776	946	1482	-	-
Stage 1	916	-	-	-	-
Stage 2	920	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	774	946	1482	-	-
Mov Cap-2 Maneuver	774	-	-	-	-
Stage 1	914	-	-	-	-
Stage 2	920	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.39	0.24	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	58	-	824	-	-
HCM Lane V/C Ratio	0.002	-	0.004	-	-
HCM Control Delay (s/veh)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↔			↕			↕	
Traffic Vol, veh/h	14	180	0	0	98	34	23	45	78	43	0	57
Future Vol, veh/h	14	180	0	0	98	34	23	45	78	43	0	57
Peak Hour Factor	0.81	0.89	0.92	0.92	0.81	0.69	0.61	0.72	0.94	0.65	0.92	0.81
Heavy Vehicles, %	0	2	0	0	1	3	0	0	0	0	0	0
Mvmt Flow	17	202	0	0	121	49	38	63	83	66	0	70
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10	9.3	9.3	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	7%	0%	43%
Vol Thru, %	31%	93%	74%	0%
Vol Right, %	53%	0%	26%	57%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	146	194	132	100
LT Vol	23	14	0	43
Through Vol	45	180	98	0
RT Vol	78	0	34	57
Lane Flow Rate	183	220	170	137
Geometry Grp	1	1	1	1
Degree of Util (X)	0.24	0.297	0.227	0.183
Departure Headway (Hd)	4.722	4.878	4.796	4.815
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	753	731	741	739
Service Time	2.794	2.954	2.874	2.892
HCM Lane V/C Ratio	0.243	0.301	0.229	0.185
HCM Control Delay, s/veh	9.3	10	9.3	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	1.2	0.9	0.7

BOHL 00293 Proposed Residential Development - Bloomfield NJ  
 4: Bloomfield Avenue (CR 506S) & Liberty Street

No-Build  
 SAT

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	89	67	586	18	95	778
Future Volume (vph)	89	67	586	18	95	778
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	35		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850	0.995			
Flt Protected	0.950					0.995
Satd. Flow (prot)	2005	1794	3912	0	0	3950
Flt Permitted	0.950					0.788
Satd. Flow (perm)	2005	1794	3912	0	0	3129
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		73	6			
Link Speed (mph)	25		25			25
Link Distance (ft)	152		189			432
Travel Time (s)	4.1		5.2			11.8
Peak Hour Factor	0.95	0.92	0.93	0.85	0.98	0.94
Heavy Vehicles (%)	0%	0%	1%	0%	1%	1%
Adj. Flow (vph)	94	73	630	21	97	828
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	73	651	0	0	925
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	16.0	16.0	52.0		6.0	61.0
Minimum Split (s)	22.0	22.0	59.0		9.0	68.0
Total Split (s)	22.0	22.0	59.0		9.0	68.0
Total Split (%)	24.4%	24.4%	65.6%		10.0%	75.6%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	3.0	3.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	6.0	6.0	7.0			7.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Max		None	Max
Act Effct Green (s)	16.0	16.0	65.8			65.8
Actuated g/C Ratio	0.18	0.18	0.74			0.74
v/c Ratio	0.25	0.19	0.22			0.39
Control Delay (s/veh)	34.0	9.5	5.0			6.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay (s/veh)	34.0	9.5	5.0			6.4
LOS	C	A	A			A
Approach Delay (s/veh)	23.4		5.1			6.4
Approach LOS	C		A			A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	47	0	64			110
Queue Length 95th (ft)	91	36	86			145
Internal Link Dist (ft)	72		109			352
Turn Bay Length (ft)		35				
Base Capacity (vph)	362	383	2905			2322
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.26	0.19	0.22			0.40

**Intersection Summary**

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	88.6
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.40
Intersection Signal Delay (s/veh):	7.5
Intersection LOS:	A
Intersection Capacity Utilization	110.8%
ICU Level of Service	H
Analysis Period (min)	15

**Splits and Phases: 4: Bloomfield Avenue (CR 506S) & Liberty Street**



Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	21	17	72	46	642	43	35	759	89
Future Vol, veh/h	0	0	0	21	17	72	46	642	43	35	759	89
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	92	92	92	71	67	69	73	93	68	85	94	86
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	1	0
Mvmt Flow	0	0	0	30	25	104	63	690	63	41	807	103

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1334	1841	377
Stage 1	848	848	-
Stage 2	486	993	-
Critical Hdwy	7	6.7	7
Critical Hdwy Stg 1	6	5.7	-
Critical Hdwy Stg 2	6	5.7	-
Follow-up Hdwy	3.5	4	3.3
Pot Cap-1 Maneuver	137	69	620
Stage 1	367	363	-
Stage 2	574	308	-
Platoon blocked, %			
Mov Cap-1 Maneuver	115	0	620
Mov Cap-2 Maneuver	115	0	-
Stage 1	329	0	-
Stage 2	537	0	-

Approach	WB	NB	SB
HCM Control Delay, s/v	27.64	1.56	0.87
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBRWBLn1	SBL	SBT	SBR
Capacity (veh/h)	249	-	-	314	134	-
HCM Lane V/C Ratio	0.083	-	-	0.507	0.048	-
HCM Control Delay (s/veh)	10.2	0.9	-	27.6	9.4	0.5
HCM Lane LOS	B	A	-	D	A	A
HCM 95th %tile Q(veh)	0.3	-	-	2.7	0.1	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	0	0	666	0	0	846
Future Vol, veh/h	0	0	666	0	0	846
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	2	-	-	-2
Peak Hour Factor	92	92	93	92	92	94
Heavy Vehicles, %	2	2	2	2	2	1
Mvmt Flow	0	0	716	0	0	900

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1166	358	0	0	716
Stage 1	716	-	-	-	-
Stage 2	450	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	187	638	-	-	880
Stage 1	445	-	-	-	-
Stage 2	609	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	187	638	-	-	880
Mov Cap-2 Maneuver	187	-	-	-	-
Stage 1	445	-	-	-	-
Stage 2	609	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	880	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s/veh)	-	-	0	-
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	34	71	21	632	822	24
Future Vol, veh/h	34	71	21	632	822	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-2	-
Peak Hour Factor	69	81	71	93	94	96
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	49	88	30	680	874	25

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1286	450	899	0	0
Stage 1	887	-	-	-	-
Stage 2	399	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	159	562	764	-	-
Stage 1	368	-	-	-	-
Stage 2	653	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	151	562	764	-	-
Mov Cap-2 Maneuver	151	-	-	-	-
Stage 1	350	-	-	-	-
Stage 2	653	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	28.9	0.83	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	150	-	284	-	-
HCM Lane V/C Ratio	0.039	-	0.482	-	-
HCM Control Delay (s/veh)	9.9	0.4	28.9	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	2.5	-	-

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	49	6	14	85	6	6	57	12	2	40	18
Future Vol, veh/h	18	49	6	14	85	6	6	57	12	2	40	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	-1	-	-	1	-	-	-1	-
Peak Hour Factor	71	78	65	65	89	75	75	72	75	65	68	71
Heavy Vehicles, %	0	2	0	0	1	0	17	0	0	50	0	0
Mvmt Flow	25	63	9	22	96	8	8	79	16	3	59	25

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	221	189	71	200	193	87	84	0	0	95	0	0
Stage 1	78	78	-	103	103	-	-	-	-	-	-	-
Stage 2	143	111	-	96	90	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.32	6.1	6.9	6.31	6.1	4.27	-	-	4.6	-	-
Critical Hdwy Stg 1	5.9	5.32	-	5.9	5.31	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.32	-	5.9	5.31	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.3	3.5	4.009	3.3	2.353	-	-	2.65	-	-
Pot Cap-1 Maneuver	749	713	998	772	711	979	1423	-	-	1246	-	-
Stage 1	940	834	-	913	816	-	-	-	-	-	-	-
Stage 2	872	808	-	920	826	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	637	707	998	691	705	979	1423	-	-	1246	-	-
Mov Cap-2 Maneuver	637	707	-	691	705	-	-	-	-	-	-	-
Stage 1	938	832	-	907	812	-	-	-	-	-	-	-
Stage 2	758	804	-	841	824	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v10.91		11.09	0.59	0.28
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	135	-	-	707	715	60	-	-
HCM Lane V/C Ratio	0.006	-	-	0.138	0.175	0.002	-	-
HCM Control Delay (s/veh)	7.5	0	-	10.9	11.1	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.6	0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	75	60	0
Future Vol, veh/h	0	0	0	75	60	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	72	68	92
Heavy Vehicles, %	2	2	2	0	0	2
Mvmt Flow	0	0	0	104	88	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	192	88	88	0	0
Stage 1	88	-	-	-	-
Stage 2	104	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	796	970	1507	-	-
Stage 1	935	-	-	-	-
Stage 2	920	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	796	970	1507	-	-
Mov Cap-2 Maneuver	796	-	-	-	-
Stage 1	935	-	-	-	-
Stage 2	920	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1507	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s/veh)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	1	2	1	83	76	1
Future Vol, veh/h	1	2	1	83	76	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	0	2
Mvmt Flow	1	2	1	90	83	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	176	83	84	0	0
Stage 1	83	-	-	-	-
Stage 2	92	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	814	976	1513	-	-
Stage 1	940	-	-	-	-
Stage 2	931	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	814	976	1513	-	-
Mov Cap-2 Maneuver	814	-	-	-	-
Stage 1	939	-	-	-	-
Stage 2	931	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.95	0.09	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	21	-	915	-	-
HCM Lane V/C Ratio	0.001	-	0.004	-	-
HCM Control Delay (s/veh)	7.4	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	97	0	0	79	22	21	46	57	22	0	56
Future Vol, veh/h	16	97	0	0	79	22	21	46	57	22	0	56
Peak Hour Factor	0.75	0.88	0.92	0.92	0.79	0.65	0.71	0.65	0.86	0.65	0.92	0.75
Heavy Vehicles, %	0	1	0	0	0	0	0	2	2	0	5	0
Mvmt Flow	21	110	0	0	100	34	30	71	66	34	0	75
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.7	8.5	8.6	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	14%	0%	28%
Vol Thru, %	37%	86%	78%	0%
Vol Right, %	46%	0%	22%	72%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	113	101	78
LT Vol	21	16	0	22
Through Vol	46	97	79	0
RT Vol	57	0	22	56
Lane Flow Rate	167	132	134	109
Geometry Grp	1	1	1	1
Degree of Util (X)	0.204	0.172	0.169	0.131
Departure Headway (Hd)	4.403	4.696	4.539	4.339
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	813	762	788	824
Service Time	2.437	2.736	2.579	2.377
HCM Lane V/C Ratio	0.205	0.173	0.17	0.132
HCM Control Delay, s/veh	8.6	8.7	8.5	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.6	0.6	0.4

BOHL 00293 Proposed Residential Development - Bloomfield NJ  
 4: Bloomfield Avenue (CR 506S) & Liberty Street

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	142	111	762	0	112	718
Future Volume (vph)	142	111	762	0	112	718
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	35		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Fr <sub>t</sub>		0.850				
Fl <sub>t</sub> Protected	0.950					0.993
Satd. Flow (prot)	1985	1776	3854	0	0	3871
Fl <sub>t</sub> Permitted	0.950					0.676
Satd. Flow (perm)	1985	1776	3854	0	0	2636
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		59				
Link Speed (mph)	25		25			25
Link Distance (ft)	152		189			348
Travel Time (s)	4.1		5.2			9.5
Peak Hour Factor	0.71	0.78	0.96	0.92	0.81	0.89
Heavy Vehicles (%)	1%	1%	3%	0%	2%	3%
Adj. Flow (vph)	200	142	794	0	138	807
Shared Lane Traffic (%)						
Lane Group Flow (vph)	200	142	794	0	0	945
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	16.0	16.0	80.0		7.0	91.0
Minimum Split (s)	22.0	22.0	87.0		10.0	98.0
Total Split (s)	22.0	22.0	87.0		11.0	98.0
Total Split (%)	18.3%	18.3%	72.5%		9.2%	81.7%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	3.0	3.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	6.0	6.0	7.0			7.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Max		None	Max
Act Effct Green (s)	16.0	16.0	91.0			91.0
Actuated g/C Ratio	0.13	0.13	0.76			0.76
v/c Ratio	0.75	0.49	0.27			0.47
Control Delay (s/veh)	69.0	34.4	4.6			6.3
Queue Delay	0.0	0.0	0.0			0.0
Total Delay (s/veh)	69.0	34.4	4.6			6.3
LOS	E	C	A			A
Approach Delay (s/veh)	54.7		4.7			6.4
Approach LOS	D		A			A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	151	59	84			124
Queue Length 95th (ft)	179	100	104			155
Internal Link Dist (ft)	72		109			268
Turn Bay Length (ft)		35				
Base Capacity (vph)	264	287	2922			1998
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.76	0.49	0.27			0.47

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	120
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.76
Intersection Signal Delay (s/veh):	13.7
Intersection LOS:	B
Intersection Capacity Utilization	120.5%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 4: Bloomfield Avenue (CR 506S) & Liberty Street



BOHL 00293 Proposed Residential Development - Bloomfield NJ  
 1: Bloomfield Avenue (CR 506S) & Strip Retail Ingress Driveway/Park Street

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Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	14	14	110	33	857	35	18	720	57
Future Vol, veh/h	0	0	0	14	14	110	33	857	35	18	720	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	92	92	92	65	81	76	89	91	77	65	84	92
Heavy Vehicles, %	0	0	0	0	0	0	0	4	6	0	3	2
Mvmt Flow	0	0	0	22	17	145	37	942	45	28	857	62

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1523	2013	494	919	0	0
Stage 1	1039	1039	-	-	-	-
Stage 2	484	974	-	-	-	-
Critical Hdwy	7	6.7	7	4.1	-	4.1
Critical Hdwy Stg 1	6	5.7	-	-	-	-
Critical Hdwy Stg 2	6	5.7	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	2.2
Pot Cap-1 Maneuver	102	53	519	751	-	708
Stage 1	289	293	-	-	-	-
Stage 2	576	315	-	-	-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	90	0	519	751	-	708
Mov Cap-2 Maneuver	90	0	-	-	-	-
Stage 1	270	0	-	-	-	-
Stage 2	545	0	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	30.15	0.95	0.76
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBRWBLn1	SBL	SBT	SBR
Capacity (veh/h)	122	-	-	321	96	-
HCM Lane V/C Ratio	0.049	-	-	0.572	0.039	-
HCM Control Delay (s/veh)	10	0.6	-	30.2	10.3	0.5
HCM Lane LOS	B	A	-	D	B	A
HCM 95th %tile Q(veh)	0.2	-	-	3.3	0.1	-

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↓			↔
Traffic Vol, veh/h	4	12	877	6	7	877
Future Vol, veh/h	4	12	877	6	7	877
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	1	-	-	-1
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	13	953	7	8	953

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1448	480	0	0	960
Stage 1	957	-	-	-	-
Stage 2	492	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	122	532	-	-	713
Stage 1	334	-	-	-	-
Stage 2	580	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	120	532	-	-	713
Mov Cap-2 Maneuver	120	-	-	-	-
Stage 1	334	-	-	-	-
Stage 2	572	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	18.37	0	0.22
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	287	29
HCM Lane V/C Ratio	-	-	0.061	0.011
HCM Control Delay (s/veh)	-	-	18.4	10.1
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection						
Int Delay, s/veh	6.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			↑↑		↑↑
Traffic Vol, veh/h	37	111	57	832	773	20
Future Vol, veh/h	37	111	57	832	773	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-2	-
Peak Hour Factor	69	89	76	89	87	65
Heavy Vehicles, %	0	3	0	4	3	0
Mvmt Flow	54	125	75	935	889	31

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1521	460	919	0	0
Stage 1	904	-	-	-	-
Stage 2	617	-	-	-	-
Critical Hdwy	6.8	6.96	4.1	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.33	2.2	-	-
Pot Cap-1 Maneuver	111	546	751	-	-
Stage 1	360	-	-	-	-
Stage 2	506	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	96	546	751	-	-
Mov Cap-2 Maneuver	96	-	-	-	-
Stage 1	312	-	-	-	-
Stage 2	506	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	61.65	1.88	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	267	-	227	-	-
HCM Lane V/C Ratio	0.1	-	0.785	-	-
HCM Control Delay (s/veh)	10.3	1.2	61.7	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.3	-	5.7	-	-

Intersection												
Int Delay, s/veh	10.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	30	8	48	117	83	13	16	22	37	89	22
Future Vol, veh/h	24	30	8	48	117	83	13	16	22	37	89	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	-1	-	-	1	-	-	-1	-
Peak Hour Factor	82	66	75	65	82	61	65	68	75	65	65	65
Heavy Vehicles, %	0	3	17	2	1	3	10	6	7	0	5	0
Mvmt Flow	29	45	11	74	143	136	20	24	29	57	137	34

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	403	361	154	352	363	38	171	0	0	53	0	0
Stage 1	268	268	-	78	78	-	-	-	-	-	-	-
Stage 2	135	93	-	273	285	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.33	6.27	6.92	6.31	6.13	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	5.9	5.33	-	5.92	5.31	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.33	-	5.92	5.31	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.027	3.453	3.518	4.009	3.327	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	575	576	858	615	578	1032	1359	-	-	1566	-	-
Stage 1	753	696	-	935	836	-	-	-	-	-	-	-
Stage 2	880	820	-	744	689	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	353	545	858	529	546	1032	1359	-	-	1566	-	-
Mov Cap-2 Maneuver	353	545	-	529	546	-	-	-	-	-	-	-
Stage 1	723	668	-	920	823	-	-	-	-	-	-	-
Stage 2	622	808	-	657	661	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v14.17			16.47		2.11		1.85	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	445	-	-	478	662	433	-	-
HCM Lane V/C Ratio	0.015	-	-	0.179	0.533	0.036	-	-
HCM Control Delay (s/veh)	7.7	0	-	14.2	16.5	7.4	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	3.2	0.1	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	12	3	139	138	7
Future Vol, veh/h	12	12	3	139	138	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	68	65	92
Heavy Vehicles, %	2	2	2	6	5	2
Mvmt Flow	13	13	3	204	212	8

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	427	216	220	0	0
Stage 1	216	-	-	-	-
Stage 2	211	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	584	824	1349	-	-
Stage 1	820	-	-	-	-
Stage 2	824	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	583	824	1349	-	-
Mov Cap-2 Maneuver	583	-	-	-	-
Stage 1	818	-	-	-	-
Stage 2	824	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.48		0.12	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	28	-	683	-	-
HCM Lane V/C Ratio	0.002	-	0.038	-	-
HCM Control Delay (s/veh)	7.7	0	10.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	1	139	148	1
Future Vol, veh/h	1	0	1	139	148	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	0	2
Mvmt Flow	1	0	1	151	161	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	315	161	162	0	0
Stage 1	161	-	-	-	-
Stage 2	153	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	678	884	1417	-	-
Stage 1	867	-	-	-	-
Stage 2	875	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	678	884	1417	-	-
Mov Cap-2 Maneuver	678	-	-	-	-
Stage 1	867	-	-	-	-
Stage 2	875	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.32		0.05	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	13	-	678	-	-
HCM Lane V/C Ratio	0.001	-	0.002	-	-
HCM Control Delay (s/veh)	7.5	0	10.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↔			↕			↕	
Traffic Vol, veh/h	10	102	0	0	147	42	9	88	27	51	0	97
Future Vol, veh/h	10	102	0	0	147	42	9	88	27	51	0	97
Peak Hour Factor	0.63	0.84	0.92	0.92	0.71	0.60	0.75	0.69	0.72	0.70	0.92	0.75
Heavy Vehicles, %	0	1	0	0	1	9	0	2	7	11	0	1
Mvmt Flow	16	121	0	0	207	70	12	128	38	73	0	129
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.7	11.2	10	10.2
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	9%	0%	34%
Vol Thru, %	71%	91%	78%	0%
Vol Right, %	22%	0%	22%	66%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	112	189	148
LT Vol	9	10	0	51
Through Vol	88	102	147	0
RT Vol	27	0	42	97
Lane Flow Rate	177	137	277	202
Geometry Grp	1	1	1	1
Degree of Util (X)	0.255	0.204	0.387	0.288
Departure Headway (Hd)	5.185	5.339	5.028	5.127
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	692	671	720	700
Service Time	3.222	3.373	3.028	3.162
HCM Lane V/C Ratio	0.256	0.204	0.385	0.289
HCM Control Delay, s/veh	10	9.7	11.2	10.2
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	1	0.8	1.8	1.2

BOHL 00293 Proposed Residential Development - Bloomfield NJ  
 4: Bloomfield Avenue (CR 506S) & Liberty Street

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	117	65	549	28	166	860
Future Volume (vph)	117	65	549	28	166	860
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	35		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850	0.992			
Flt Protected	0.950					0.991
Satd. Flow (prot)	1985	1759	3857	0	0	3903
Flt Permitted	0.950					0.701
Satd. Flow (perm)	1985	1759	3857	0	0	2761
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		37	10			
Link Speed (mph)	25		25			25
Link Distance (ft)	152		189			349
Travel Time (s)	4.1		5.2			9.5
Peak Hour Factor	0.67	0.83	0.92	0.84	0.84	0.95
Heavy Vehicles (%)	1%	2%	2%	4%	1%	2%
Adj. Flow (vph)	175	78	597	33	198	905
Shared Lane Traffic (%)						
Lane Group Flow (vph)	175	78	630	0	0	1103
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	16.0	16.0	82.0		6.0	91.0
Minimum Split (s)	22.0	22.0	89.0		9.0	98.0
Total Split (s)	22.0	22.0	89.0		9.0	98.0
Total Split (%)	18.3%	18.3%	74.2%		7.5%	81.7%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	3.0	3.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	6.0	6.0	7.0			7.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Max		None	Max
Act Effct Green (s)	16.0	16.0	91.0			91.0
Actuated g/C Ratio	0.13	0.13	0.76			0.76
v/c Ratio	0.66	0.29	0.21			0.52
Control Delay (s/veh)	62.4	30.0	4.3			6.9
Queue Delay	0.0	0.0	0.0			0.0
Total Delay (s/veh)	62.4	30.0	4.3			6.9
LOS	E	C	A			A
Approach Delay (s/veh)	52.5		4.3			6.9
Approach LOS	D		A			A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	131	29	62			154
Queue Length 95th (ft)	149	68	79			195
Internal Link Dist (ft)	72		109			269
Turn Bay Length (ft)		35				
Base Capacity (vph)	264	266	2927			2093
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.66	0.29	0.22			0.53

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	120
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.66
Intersection Signal Delay (s/veh):	11.9
Intersection LOS:	B
Intersection Capacity Utilization	153.5%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 4: Bloomfield Avenue (CR 506S) & Liberty Street



BOHL 00293 Proposed Residential Development - Bloomfield NJ  
 1: Bloomfield Avenue (CR 506S) & Strip Retail Ingress Driveway/Park Street

Build  
PM

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	15	18	82	33	651	36	60	894	66
Future Vol, veh/h	0	0	0	15	18	82	33	651	36	60	894	66
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	92	92	92	65	71	80	73	93	73	81	94	79
Heavy Vehicles, %	0	0	0	0	0	0	0	2	3	0	3	0
Mvmt Flow	0	0	0	23	25	103	45	700	49	74	951	84

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1439	1998	375
Stage 1	815	815	-
Stage 2	624	1183	-
Critical Hdwy	7	6.7	7
Critical Hdwy Stg 1	6	5.7	-
Critical Hdwy Stg 2	6	5.7	-
Follow-up Hdwy	3.5	4	3.3
Pot Cap-1 Maneuver	116	54	622
Stage 1	383	376	-
Stage 2	485	249	-
Platoon blocked, %			
Mov Cap-1 Maneuver	94	0	622
Mov Cap-2 Maneuver	94	0	-
Stage 1	351	0	-
Stage 2	427	0	-

Approach	WB	NB	SB
HCM Control Delay, s/v	27.73	1.31	1.49
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBRWBLn1	SBL	SBT	SBR
Capacity (veh/h)	188	-	-	306	216	-
HCM Lane V/C Ratio	0.067	-	-	0.494	0.085	-
HCM Control Delay (s/veh)	10.7	0.8	-	27.7	9.5	1
HCM Lane LOS	B	A	-	D	A	A
HCM 95th %tile Q(veh)	0.2	-	-	2.6	0.3	-

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↓			↔
Traffic Vol, veh/h	2	6	665	10	11	1072
Future Vol, veh/h	2	6	665	10	11	1072
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	1	-	-	-1
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	7	723	11	12	1165

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1335	367	0	0	734
Stage 1	728	-	-	-	-
Stage 2	607	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	145	630	-	-	867
Stage 1	439	-	-	-	-
Stage 2	507	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	142	630	-	-	867
Mov Cap-2 Maneuver	142	-	-	-	-
Stage 1	439	-	-	-	-
Stage 2	497	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	15.9	0	0.28
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	339	37
HCM Lane V/C Ratio	-	-	0.026	0.014
HCM Control Delay (s/veh)	-	-	15.9	9.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			↑↑		↑↑
Traffic Vol, veh/h	34	136	32	639	947	32
Future Vol, veh/h	34	136	32	639	947	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-2	-
Peak Hour Factor	83	89	86	93	97	71
Heavy Vehicles, %	0	2	0	2	2	0
Mvmt Flow	41	153	37	687	976	45

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1417	511	1021	0	-	0
Stage 1	999	-	-	-	-	-
Stage 2	418	-	-	-	-	-
Critical Hdwy	6.8	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	130	508	687	-	-	-
Stage 1	322	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	122	508	687	-	-	-
Mov Cap-2 Maneuver	122	-	-	-	-	-
Stage 1	300	-	-	-	-	-
Stage 2	638	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v35.53		1.14	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	185	-	304	-	-
HCM Lane V/C Ratio	0.054	-	0.637	-	-
HCM Control Delay (s/veh)	10.5	0.6	35.5	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0.2	-	4.1	-	-

Intersection												
Int Delay, s/veh	6.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	55	20	29	97	22	10	71	23	7	61	23
Future Vol, veh/h	17	55	20	29	97	22	10	71	23	7	61	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	-1	-	-	1	-	-	-1	-
Peak Hour Factor	80	83	65	65	97	66	65	65	65	88	88	92
Heavy Vehicles, %	0	2	0	0	0	0	0	0	0	0	2	0
Mvmt Flow	21	66	31	45	100	33	15	109	35	8	69	25

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	288	273	82	276	268	127	94	0	0	145	0	0
Stage 1	98	98	-	158	158	-	-	-	-	-	-	-
Stage 2	190	175	-	118	110	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.32	6.1	6.9	6.3	6.1	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.9	5.32	-	5.9	5.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.32	-	5.9	5.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	679	644	986	691	651	932	1512	-	-	1450	-	-
Stage 1	919	819	-	857	778	-	-	-	-	-	-	-
Stage 2	825	761	-	897	813	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	545	633	986	590	640	932	1512	-	-	1450	-	-
Mov Cap-2 Maneuver	545	633	-	590	640	-	-	-	-	-	-	-
Stage 1	913	814	-	847	769	-	-	-	-	-	-	-
Stage 2	684	753	-	794	808	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	11.45	12.38	0.71	0.58
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	165	-	-	676	665	133	-	-
HCM Lane V/C Ratio	0.01	-	-	0.175	0.268	0.005	-	-
HCM Control Delay (s/veh)	7.4	0	-	11.5	12.4	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	1.1	0	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	6	6	98	99	11
Future Vol, veh/h	6	6	6	98	99	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	65	88	92
Heavy Vehicles, %	2	2	2	0	2	2
Mvmt Flow	7	7	7	151	113	12

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	282	118	124	0	0
Stage 1	118	-	-	-	-
Stage 2	164	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	708	933	1462	-	-
Stage 1	907	-	-	-	-
Stage 2	865	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	704	933	1462	-	-
Mov Cap-2 Maneuver	704	-	-	-	-
Stage 1	902	-	-	-	-
Stage 2	865	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.56	0.31	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	75	-	803	-	-
HCM Lane V/C Ratio	0.004	-	0.016	-	-
HCM Control Delay (s/veh)	7.5	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	2	1	1	95	103	2
Future Vol, veh/h	2	1	1	95	103	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	0	2
Mvmt Flow	2	1	1	103	112	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	218	113	114	0	0
Stage 1	113	-	-	-	-
Stage 2	105	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	770	940	1475	-	-
Stage 1	912	-	-	-	-
Stage 2	919	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	769	940	1475	-	-
Mov Cap-2 Maneuver	769	-	-	-	-
Stage 1	911	-	-	-	-
Stage 2	919	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.41	0.08	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	19	-	819	-	-
HCM Lane V/C Ratio	0.001	-	0.004	-	-
HCM Control Delay (s/veh)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	180	0	0	98	36	23	46	78	43	0	61
Future Vol, veh/h	14	180	0	0	98	36	23	46	78	43	0	61
Peak Hour Factor	0.81	0.89	0.92	0.92	0.81	0.69	0.61	0.72	0.94	0.65	0.92	0.81
Heavy Vehicles, %	0	2	0	0	1	3	0	0	0	0	0	0
Mvmt Flow	17	202	0	0	121	52	38	64	83	66	0	75
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.1	9.4	9.4	9
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	7%	0%	41%
Vol Thru, %	31%	93%	73%	0%
Vol Right, %	53%	0%	27%	59%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	147	194	134	104
LT Vol	23	14	0	43
Through Vol	46	180	98	0
RT Vol	78	0	36	61
Lane Flow Rate	185	220	173	141
Geometry Grp	1	1	1	1
Degree of Util (X)	0.243	0.299	0.231	0.189
Departure Headway (Hd)	4.738	4.899	4.808	4.812
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	751	727	739	738
Service Time	2.814	2.976	2.888	2.893
HCM Lane V/C Ratio	0.246	0.303	0.234	0.191
HCM Control Delay, s/veh	9.4	10.1	9.4	9
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	1	1.3	0.9	0.7

BOHL 00293 Proposed Residential Development - Bloomfield NJ  
 4: Bloomfield Avenue (CR 506S) & Liberty Street

Build  
SAT



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	93	68	596	18	96	780
Future Volume (vph)	93	68	596	18	96	780
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	35		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850	0.995			
Flt Protected	0.950					0.995
Satd. Flow (prot)	2005	1794	3912	0	0	3950
Flt Permitted	0.950					0.785
Satd. Flow (perm)	2005	1794	3912	0	0	3117
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		74	6			
Link Speed (mph)	25		25			25
Link Distance (ft)	152		189			348
Travel Time (s)	4.1		5.2			9.5
Peak Hour Factor	0.95	0.92	0.93	0.85	0.98	0.94
Heavy Vehicles (%)	0%	0%	1%	0%	1%	1%
Adj. Flow (vph)	98	74	641	21	98	830
Shared Lane Traffic (%)						
Lane Group Flow (vph)	98	74	662	0	0	928
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	
Detector Phase	8	8	2		1	6
Switch Phase						
Minimum Initial (s)	16.0	16.0	52.0		6.0	61.0
Minimum Split (s)	22.0	22.0	59.0		9.0	68.0
Total Split (s)	22.0	22.0	59.0		9.0	68.0
Total Split (%)	24.4%	24.4%	65.6%		10.0%	75.6%
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	3.0	3.0	3.0		0.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	6.0	6.0	7.0			7.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	Max		None	Max
Act Effct Green (s)	16.0	16.0	65.8			65.8
Actuated g/C Ratio	0.18	0.18	0.74			0.74
v/c Ratio	0.27	0.19	0.22			0.40
Control Delay (s/veh)	34.2	9.6	5.1			6.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay (s/veh)	34.2	9.6	5.1			6.4
LOS	C	A	A			A
Approach Delay (s/veh)	23.7		5.1			6.4
Approach LOS	C		A			A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	49	0	66			111
Queue Length 95th (ft)	94	36	88			147
Internal Link Dist (ft)	72		109			268
Turn Bay Length (ft)		35				
Base Capacity (vph)	362	384	2905			2313
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.27	0.19	0.23			0.40

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	88.6
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.40
Intersection Signal Delay (s/veh):	7.6
Intersection LOS:	A
Intersection Capacity Utilization:	111.6%
ICU Level of Service:	H
Analysis Period (min):	15

Splits and Phases: 4: Bloomfield Avenue (CR 506S) & Liberty Street



BOHL 00293 Proposed Residential Development - Bloomfield NJ  
 1: Bloomfield Avenue (CR 506S) & Strip Retail Ingress Driveway/Park Street

Build  
SAT

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	21	17	75	46	649	43	40	771	89
Future Vol, veh/h	0	0	0	21	17	75	46	649	43	40	771	89
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	1	-	-	2	-	-	-1	-
Peak Hour Factor	92	92	92	71	67	69	73	93	68	85	94	86
Heavy Vehicles, %	0	0	0	0	0	0	0	2	2	0	1	0
Mvmt Flow	0	0	0	30	25	109	63	698	63	47	820	103

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1360	1873	381
Stage 1	855	855	-
Stage 2	504	1018	-
Critical Hdwy	7	6.7	7
Critical Hdwy Stg 1	6	5.7	-
Critical Hdwy Stg 2	6	5.7	-
Follow-up Hdwy	3.5	4	3.3
Pot Cap-1 Maneuver	132	66	617
Stage 1	364	360	-
Stage 2	562	300	-
Platoon blocked, %			
Mov Cap-1 Maneuver	109	0	617
Mov Cap-2 Maneuver	109	0	-
Stage 1	325	0	-
Stage 2	520	0	-

Approach	WB	NB	SB
HCM Control Delay, s/v	29.08	1.57	0.99
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	NBRWBLn1	SBL	SBT	SBR
Capacity (veh/h)	247	-	-	309	151	-
HCM Lane V/C Ratio	0.084	-	-	0.53	0.055	-
HCM Control Delay (s/veh)	10.3	0.9	-	29.1	9.4	0.6
HCM Lane LOS	B	A	-	D	A	A
HCM 95th %tile Q(veh)	0.3	-	-	2.9	0.2	-

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑↑			↑↑
Traffic Vol, veh/h	2	6	654	10	11	894
Future Vol, veh/h	2	6	654	10	11	894
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	1	-	-	-1
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	7	711	11	12	972

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1226	361	0	0	722
Stage 1	716	-	-	-	-
Stage 2	510	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22
Pot Cap-1 Maneuver	171	636	-	-	876
Stage 1	445	-	-	-	-
Stage 2	568	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	168	636	-	-	876
Mov Cap-2 Maneuver	168	-	-	-	-
Stage 1	445	-	-	-	-
Stage 2	557	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	14.84	0	0.28
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	374	44
HCM Lane V/C Ratio	-	-	0.023	0.014
HCM Control Delay (s/veh)	-	-	14.8	9.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	34	71	21	639	834	24
Future Vol, veh/h	34	71	21	639	834	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-2	-
Peak Hour Factor	69	81	71	93	94	96
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	49	88	30	687	887	25

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1302	456	912	0	0
Stage 1	900	-	-	-	-
Stage 2	403	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	155	557	755	-	-
Stage 1	362	-	-	-	-
Stage 2	650	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	147	557	755	-	-
Mov Cap-2 Maneuver	147	-	-	-	-
Stage 1	345	-	-	-	-
Stage 2	650	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	29.81	0.84	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	149	-	279	-	-
HCM Lane V/C Ratio	0.039	-	0.492	-	-
HCM Control Delay (s/veh)	10	0.4	29.8	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	2.5	-	-

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	49	11	20	85	6	9	58	16	2	43	18
Future Vol, veh/h	18	49	11	20	85	6	9	58	16	2	43	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	-1	-	-	1	-	-	-1	-
Peak Hour Factor	71	78	65	65	89	75	75	72	75	65	68	71
Heavy Vehicles, %	0	2	0	0	1	0	17	0	0	50	0	0
Mvmt Flow	25	63	17	31	96	8	12	81	21	3	63	25

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	234	208	76	216	210	91	89	0	0	102	0	0
Stage 1	82	82	-	115	115	-	-	-	-	-	-	-
Stage 2	152	126	-	101	95	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.32	6.1	6.9	6.31	6.1	4.27	-	-	4.6	-	-
Critical Hdwy Stg 1	5.9	5.32	-	5.9	5.31	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.32	-	5.9	5.31	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.3	3.5	4.009	3.3	2.353	-	-	2.65	-	-
Pot Cap-1 Maneuver	734	697	993	754	697	974	1418	-	-	1238	-	-
Stage 1	935	831	-	900	807	-	-	-	-	-	-	-
Stage 2	862	797	-	915	823	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	621	689	993	666	689	974	1418	-	-	1238	-	-
Mov Cap-2 Maneuver	621	689	-	666	689	-	-	-	-	-	-	-
Stage 1	933	828	-	892	800	-	-	-	-	-	-	-
Stage 2	746	790	-	829	821	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	11	11.41	0.8	0.27
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	182	-	-	705	696	57	-	-
HCM Lane V/C Ratio	0.008	-	-	0.149	0.193	0.002	-	-
HCM Control Delay (s/veh)	7.6	0	-	11	11.4	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.7	0	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	6	6	6	77	63	11
Future Vol, veh/h	6	6	6	77	63	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	72	68	92
Heavy Vehicles, %	2	2	2	0	0	2
Mvmt Flow	7	7	7	107	93	12

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	219	99	105	0	0
Stage 1	99	-	-	-	-
Stage 2	120	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	770	957	1487	-	-
Stage 1	925	-	-	-	-
Stage 2	905	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	766	957	1487	-	-
Mov Cap-2 Maneuver	766	-	-	-	-
Stage 1	921	-	-	-	-
Stage 2	905	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.3	0.43	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	103	-	851	-	-
HCM Lane V/C Ratio	0.004	-	0.015	-	-
HCM Control Delay (s/veh)	7.4	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	3	2	3	89	82	4
Future Vol, veh/h	3	2	3	89	82	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	1	-1	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	0	0	2
Mvmt Flow	3	2	3	97	89	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	195	91	93	0	0
Stage 1	91	-	-	-	-
Stage 2	103	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	794	966	1501	-	-
Stage 1	932	-	-	-	-
Stage 2	921	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	792	966	1501	-	-
Mov Cap-2 Maneuver	792	-	-	-	-
Stage 1	930	-	-	-	-
Stage 2	921	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.24	0.24	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	59	-	854	-	-
HCM Lane V/C Ratio	0.002	-	0.006	-	-
HCM Control Delay (s/veh)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	97	0	0	79	27	21	48	57	23	0	61
Future Vol, veh/h	17	97	0	0	79	27	21	48	57	23	0	61
Peak Hour Factor	0.75	0.88	0.92	0.92	0.79	0.65	0.71	0.65	0.86	0.65	0.92	0.75
Heavy Vehicles, %	0	1	0	0	0	0	0	2	2	0	5	0
Mvmt Flow	23	110	0	0	100	42	30	74	66	35	0	81
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.8	8.6	8.7	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	15%	0%	27%
Vol Thru, %	38%	85%	75%	0%
Vol Right, %	45%	0%	25%	73%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	126	114	106	84
LT Vol	21	17	0	23
Through Vol	48	97	79	0
RT Vol	57	0	27	61
Lane Flow Rate	170	133	142	117
Geometry Grp	1	1	1	1
Degree of Util (X)	0.209	0.175	0.179	0.141
Departure Headway (Hd)	4.44	4.736	4.549	4.361
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	806	756	787	819
Service Time	2.476	2.777	2.589	2.401
HCM Lane V/C Ratio	0.211	0.176	0.18	0.143
HCM Control Delay, s/veh	8.7	8.8	8.6	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.6	0.6	0.5